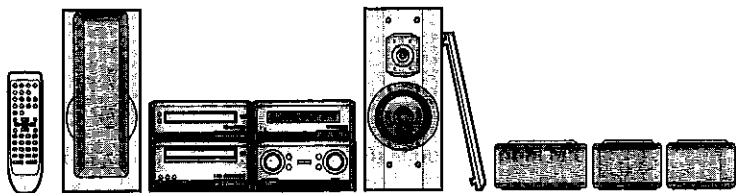


DVD Stereo System

Operating Instructions

Model No. **SC-HDV600**



The model for the United Kingdom does not include center and surround speakers.



Technics®



Note:
"EB" on the outer packaging indicates the United Kingdom.

Before connecting, operating or adjusting this product, please read these instructions completely. Please keep this manual for future reference.

RQT5941-B

Dear Customer

Thank you for purchasing this product.
For optimum performance and safety, please read these instructions carefully.

These operating instructions are applicable to the following system.

System	SC-HDV600
Amplifier	SE-HDV600
Tuner	ST-HDV600
DVD player	SL-HDV600
Cassette deck	RS-HDA800
Front speakers	SB-HDV600

(Except for United Kingdom)

Surround speakers	SB-PS96
Center speaker	SB-PC96

WARNING:

TO REDUCE THE RISK OF FIRE,
ELECTRIC SHOCK OR PRODUCT DAMAGE, DO NOT
EXPOSE THIS APPLIANCE TO RAIN, SPLASHING,
DRIPPING OR MOISTURE.

CAUTION!

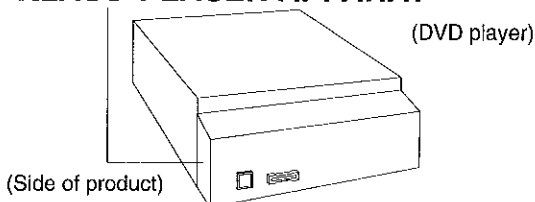
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR
PERFORMANCE OF PROCEDURES OTHER THAN THOSE
SPECIFIED HEREIN MAY RESULT IN HAZARDOUS
RADIATION EXPOSURE.
DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF.
REFER SERVICING TO QUALIFIED PERSONNEL.

CAUTION!

DO NOT INSTALL, OR PLACE THIS UNIT, IN A BOOKCASE,
BUILT-IN CABINET OR IN ANOTHER CONFINED SPACE.
ENSURE THE UNIT IS WELL VENTILATED. TO PREVENT
RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO
OVERHEATING, ENSURE THAT CURTAINS AND ANY
OTHER MATERIALS DO NOT OBSTRUCT THE
VENTILATION VENTS.

**CLASS 1
LASER PRODUCT**

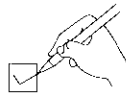
**LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT**



DANGER	- VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM. (FDA 21 CFR)
CAUTION	- VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM. (IEC60825-1)
ATTENTION	- RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FASCEAU.
ADVARSEL	- SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARO!	- AVATTAESSA OLET ALTUUNA NÄKYVÄÄ JA NÄKYMÄTÖN LASERISÄTEILYÄ. ÄLÄ KATSO SÄTEESSEN.
VARNING	- SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRÄKTA EJ STRÅLEN.
ADVARSEL	- SYNLIG OG USYNLIG LASERSTRÅLING NÄR DEKSEL ÅPNES. UNNGÅ EKSPONERING FOR STRÅLEN.
VORSICHT	- SICHTBARE UND UNSICHTBARE LASERSTRÄHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEN STRAHL AUSSETZEN.
注意	- 打开时有可见及不可见激光辐射。避免激光束照射。
注意	- ここを開くと可視及び不可視のレーザー光が出ます。RQLS0233 ビームを直射したり、見たりしないでください。

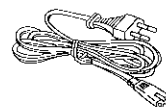
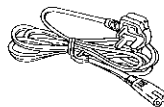
(Inside of product)

Supplied accessories

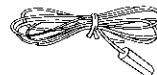


Please check and identify the supplied accessories.

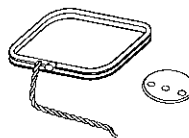
- ☐ AC mains lead 1 pc.
For United Kingdom (RJA0053-2X) For others (RJA0019-1X)



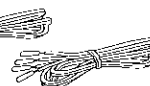
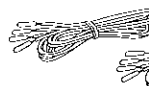
- ☐ FM indoor antenna (RSA0007) 1 pc.



- ☐ AM loop antenna set (RSA0035) 1 pc.



- ☐ Speaker cords
• Red and black (REE1057) 2 pcs.
• Blue and gray (REE0853) 2 pcs.



- ☐ Surround cable (REX0941) 1 pc.



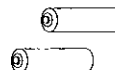
- ☐ Video connection cable (RJL1P019B15) 1 pc.



- ☐ Remote control (EUR7702080) 1 pc.



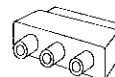
- ☐ Remote control batteries 2 pcs.



- ☐ Antenna plug adapter (SJP9009) 1 pc.
(United Kingdom only)



- ☐ SKART plug adapter (VFA0151-2) 1 pc.



Use numbers indicated in parentheses when asking for replacement parts.

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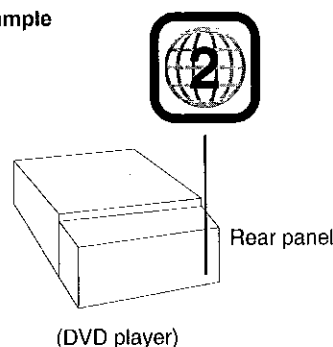
Region numbers

Region numbers are allocated to DVD players and software according to where they are sold. DVDs can be played on this unit if their region number is the same or includes the same number, or if the DVD is marked "ALL". Confirm the region number for this unit before choosing discs. The number for this unit is indicated on the rear panel.

Discs that can be played by the unit shown in this example



Example



Before use

Caution for AC Mains Lead

Safety precautions

(For United Kingdom)
("EB" area code model only)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 5-ampere fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local dealer.

CAUTION!

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.

THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as stated below.

If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral, Brown: Live.

As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL  OR COLOURED GREEN OR GREEN/YELLOW.

THIS PLUG IS NOT WATERPROOF—KEEP DRY.

Before use

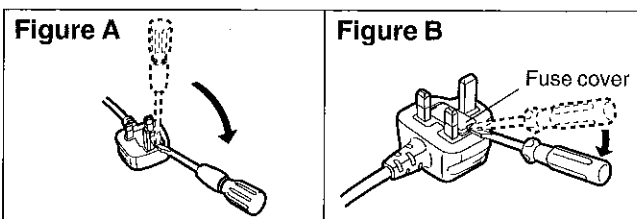
Remove the connector cover.

How to replace the fuse

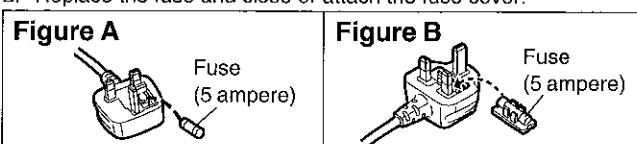
The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.

Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.



2. Replace the fuse and close or attach the fuse cover.



Placement

Set the unit up on an even surface away from direct sunlight, high temperatures, high humidity, and excessive vibration. These conditions can damage the cabinet and other components, thereby shortening the unit's service life.

Place it at least 15 cm away from wall surfaces to avoid distortion and unwanted acoustical effects.

Do not place heavy items on the unit.

Voltage

Do not use high voltage power sources. This can overload the unit and cause a fire.

Do not use a DC power source. Check the source carefully when setting the unit up on a ship or other place where DC is used.

AC mains lead protection

Ensure the AC mains lead is connected correctly and not damaged. Poor connection and lead damage can cause fire or electric shock. Do not pull, bend, or place heavy items on the lead.

Grasp the plug firmly when unplugging the lead. Pulling the AC mains lead can cause electric shock.

Do not handle the plug with wet hands. This can cause electric shock.

Foreign matter

Do not let metal objects fall inside the unit. This can cause electric shock or malfunction.

Do not let liquids get into the unit. This can cause electric shock or malfunction. If this occurs, immediately disconnect the unit from the power supply and contact your dealer.

Do not spray insecticides onto or into the unit. They contain flammable gases which can ignite if sprayed into the unit.

Service

Do not attempt to repair this unit by yourself. If sound is interrupted, indicators fail to light, smoke appears, or any other problem that is not covered in these operating instructions occurs, disconnect the AC mains lead and contact your dealer or an authorized service center. Electric shock or damage to the unit can occur if the unit is repaired, disassembled or reconstructed by unqualified persons.

Extend operating life by disconnecting the unit from the power source if it is not to be used for a long time.

Disc selection and care

Use this chart when selecting discs. You can use both 8-cm and 12-cm discs. Do not use a disc adapter for 8-cm discs.

Disc type	Logo	Video system	Indication used in instructions
DVD-Video		NTSC + PAL	
Video CD		NTSC + PAL	
CD			

Discs that cannot be played

- DVDs with an unsuitable region number.
- DVD-Audio, DVD-ROM, DVD-R/DVD-RAM, CD-ROM, VSD, CDV, CD-G, +RW, CVD, SVCD, Divx Video Discs and Photo CD.

Playing CD-R and CD-RW

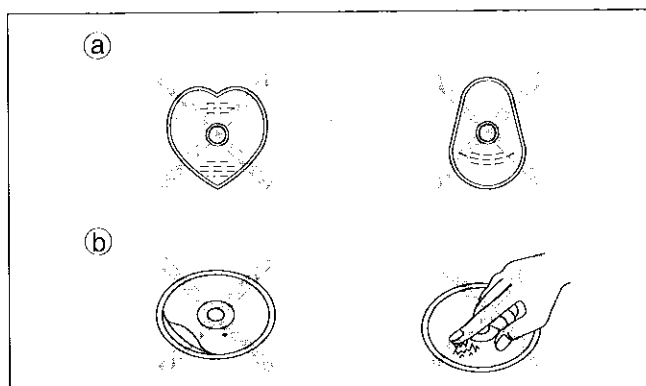
This unit can play CD-DA (digital audio) and video CD format audio CD-R and CD-RW that have been finalized* upon completion of recording.

It may not be able to play some CD-R or CD-RW due to the condition of the recording.

* Finalizing is a process that enables CD-R/CD-RW players to play audio CD-R and CD-RW.

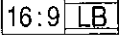
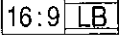
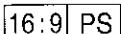
Do not;

- use irregularly shaped discs (a).
- attach extra labels and stickers.
- use discs with labels and stickers that are coming off or with adhesive exuding from under labels and stickers (b).
- attach scratch-proof covers or any other kind of accessory.
- write anything on the disc.
- clean discs with liquids (Wipe with a soft, dry cloth.).



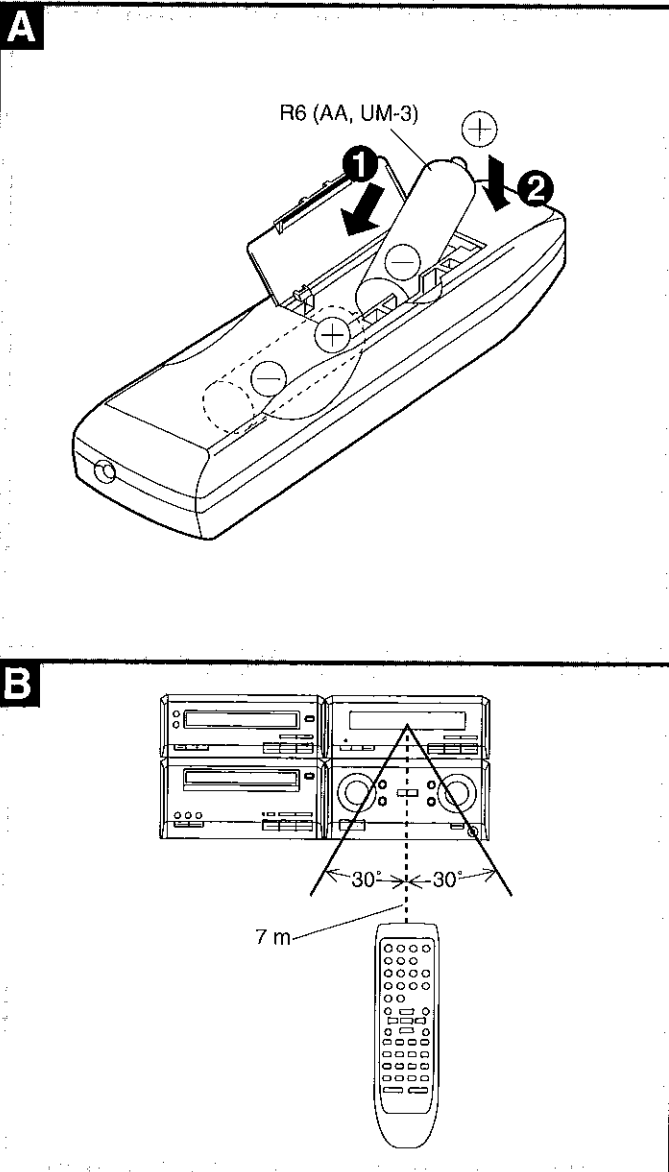
DVD jacket symbols

The following table shows examples and explanations of symbols found on DVD jackets. Refer to the table before play.

Explanation	Example symbols
Audio signals Dolby Digital This unit has a Dolby Digital decoder so you can play discs with this symbol. United Kingdom only Dolby Digital signals will be down-mixed to 2 channels if you do not connect surround and center speakers.	
DTS You can enjoy discs with this symbol by connecting this unit to equipment with a DTS decoder with an optical fiber cable.	
Screen size 4:3 The video is recorded using the 4:3 aspect ratio for regular televisions.	
16:9 The video is recorded using the 16:9 aspect ratio for widescreen televisions.	
LB (letterbox) The video is shown on a regular television with black bands at the top and bottom of the screen.	
PS (Pan & Scan) The video is shown on a regular television with the sides cut off.	
Other symbols Soundtracks The example symbol shows that the disc contains two soundtracks.	
Subtitle languages The example symbol shows that the disc contains two subtitle languages.	
Angles The example symbol shows that the disc contains scenes recorded from three different angles.	

DVD audio formats

DVDs may be recorded monaurally or stereophonically instead of with multiple channels. So, for example, audio recorded with Dolby Surround, a stereo format found on DVDs and other media, will be played only through the front speakers.



The remote control

A Batteries

Insert so the poles (+ and -) match those in the remote control. Do not use rechargeable type batteries.

Do not;

- mix old and new batteries.
- use different types at the same time.
- heat or expose to flame.
- take apart.
- short circuit.
- attempt to recharge alkaline or manganese batteries.

Mishandling of batteries can cause electrolyte leakage which can damage items the fluid contacts and may cause a fire.

If electrolyte leaks from the batteries, consult your dealer.

Wash thoroughly with water if electrolyte comes in contact with any part of your body.

Remove if the remote control is not going to be used for a long period of time. Store in a cool, dark place.

Replace if the unit does not respond to the remote control even when held close to the front panel.

B Use

Aim at the sensor, avoiding obstacles, at a maximum range of 7 meters directly in front of the unit.

- Keep the transmission window and the unit's sensor free from dust.
- Operation can be affected by strong light sources, such as direct sunlight, and the glass doors on cabinets.

Do not;

- put heavy objects on the remote control.
- take the remote control apart.
- spill liquids onto the remote control.

Type of disc for the type of connected TV

DVDs and Video CDs are recorded using either PAL or NTSC. Refer to this table when selecting discs.

(a) Clear images are shown on the screen.

(b) No clear images shown on the screen.

TV type	Disc	TV monitor
Multi-system TV	PAL	(a) ✓
	NTSC	(a) ✓ ¹⁾
NTSC TV	PAL	(b) ×
	NTSC	(b) ×
PAL TV	PAL	(a) ✓
	NTSC	(a) ✓ ²⁾

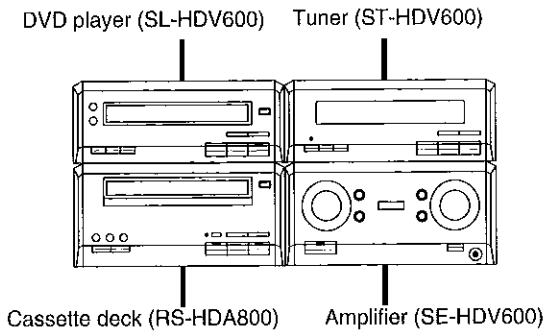
¹⁾ If you select "NTSC" in Video - NTSC Disc Output (➡ page 42), the picture may be clearer.

²⁾ The factory setting for NTSC disc output is PAL 60, so no changes to the initial settings are necessary. If your television is not equipped to handle PAL 525/60 signals the picture will not be shown correctly.

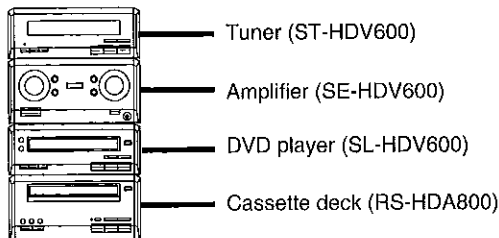
Note

The bottom part of the picture may be cut off if the Video CD played does not comply with standards.

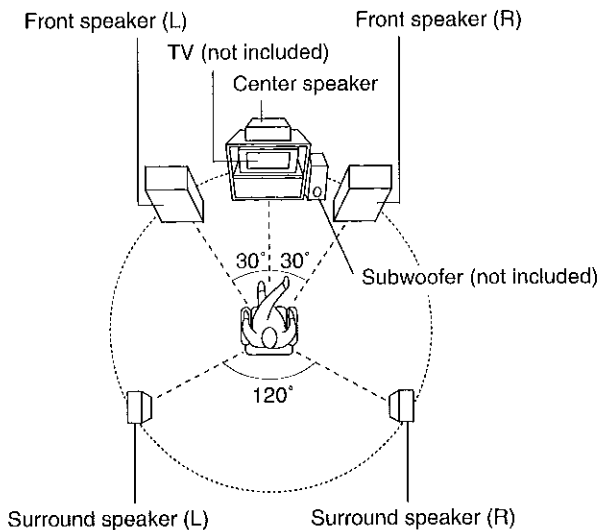
A Side-by-side setup



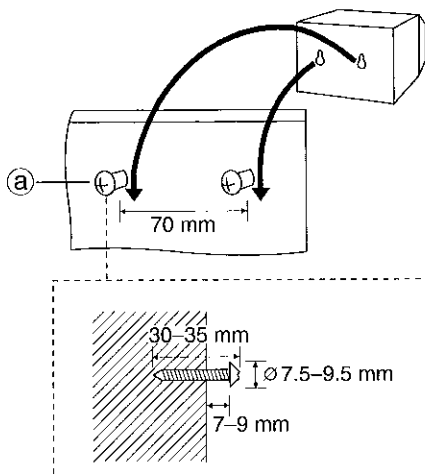
Stacking



B



C



Installation

A Audio components

You can set up the components side-by-side or stacked. The explanations show the side-by-side setup.

B Speakers and TV (not included)

The figure shows an example of when you have connected all the speakers it is possible to connect to this system. Obtain any extra speakers to suit your needs.

- Center and surround speakers are necessary to enjoy the surround sound on DVDs.
- A subwoofer increases the power of the bass.

For the United Kingdom

Center, surround and subwoofer speakers are not included.

Optional speakers: Center/surround speaker system SB-PT96

If you purchase different speaker system, ensure the speakers have an impedance of 8 Ω.

Be sure to change the speaker settings to suit the speakers you connect (→ page 44).

For other areas

The subwoofer is not included.

Positioning your speakers

The optimum is to place all your speakers, except for the subwoofer, an equal distance from the seating area. The angles in the figure are approximate.

- Position the center speaker directly above or below the television.
- Put the subwoofer somewhere near the television.

Speaker magnetic shielding

The following applies to the included speakers and to the recommended optional center and surround speaker system (SB-PT96).

If irregular coloring occurs on your television

These speakers are designed to be used close to a television, but the picture may be affected with some televisions and set-up combinations.

If this occur, turn the television off for about 30 minutes.

The television's demagnetizing function should correct the problem.

If it persists, move the speakers further away from the television.

C Attaching the surround speakers to the wall (Except for United Kingdom)

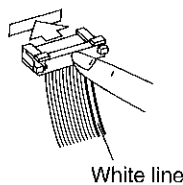
Screw the wood screw (a) (not included) into a thick and hard part of the wall.

The surface you attach the speakers to must be able to support over 10 kg.

Caution

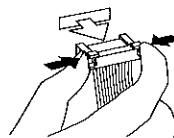
Do not attempt to attach these speakers to walls methods other than those described in this manual.

1

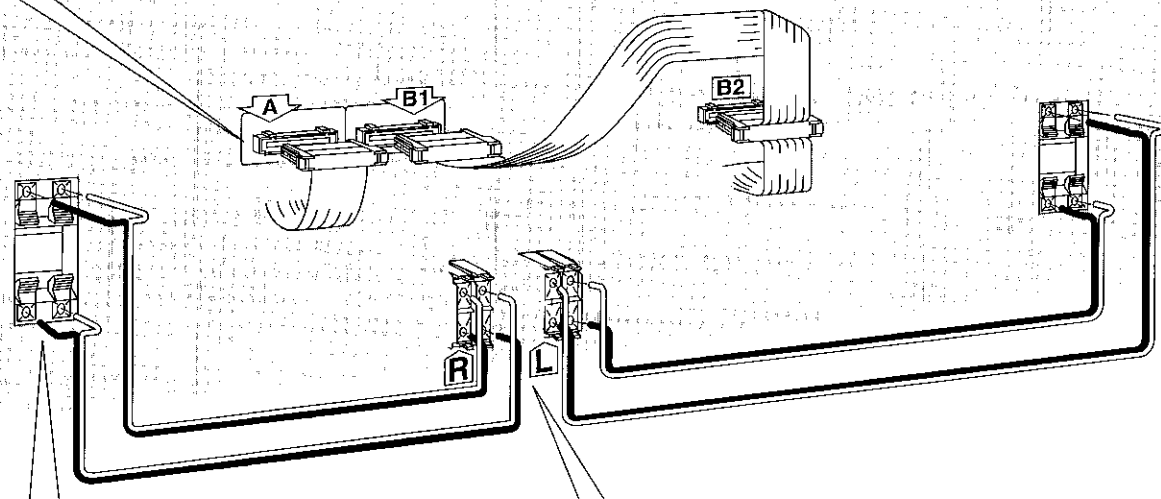


White line

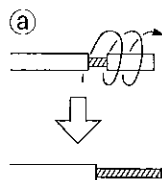
To unplug cable



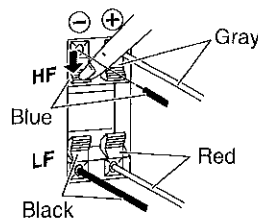
Press both ends and pull out.



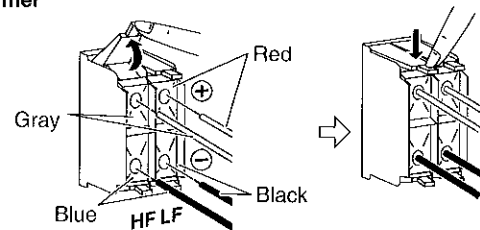
2



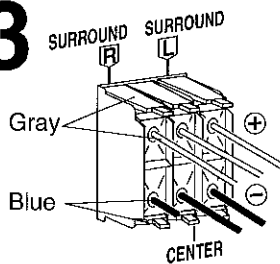
Speaker



Amplifier



3

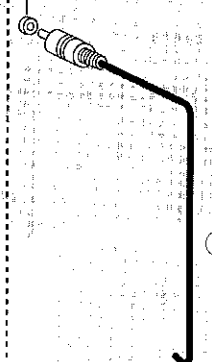


Surround speaker (R)

Surround speaker (L)

Center speaker

SUBWOOFER



Subwoofer

For the United Kingdom
Center, surround and subwoofer speakers are not included.
For other areas
The subwoofer is not included.

Connections

Note

Do not connect the AC mains lead until all other connections are complete.

1 Flat cables.

Keep the cables as flat as possible against the back of the unit.

2 Front speakers.

To prepare the speaker cables, twist the vinyl tip and pull off (a).

Connect the cables to the terminals of the same color.

HF: High Frequency

LF: Low Frequency

Note

- To prevent damage to circuitry, never short-circuit positive (+) and negative (–) speaker wires.
- Be sure to connect only positive (red or gray) wires to positive (+) terminals and negative (black or blue) wires to negative (–) terminals.

3 Center/surround speakers and subwoofer.

If center and surround speakers are included

The connection procedure is the same as for the front speakers.

If you connect speakers purchased separately

Refer to the speaker's operating instructions. You will need a monaural connection cable to connect a subwoofer (b).

Caution

- Incorrect connection can damage the unit.
- Use the speakers only with the recommended system. Failure to do so can damage the amplifier and speakers, and can cause fire. Consult a qualified service person if damage occurs or if a sudden change in performance is apparent.
- Place the speakers on a stable surface such as the floor or a sturdy shelf.

Notes on speaker use

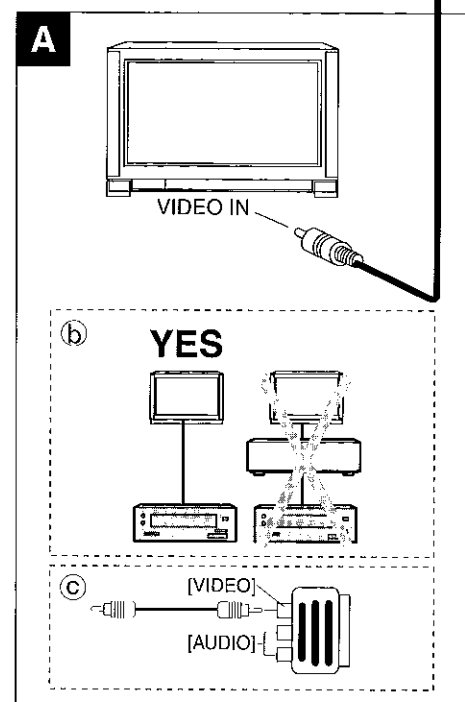
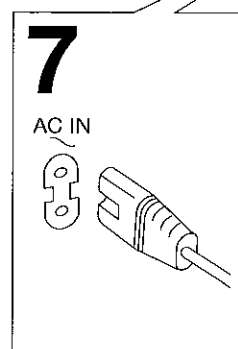
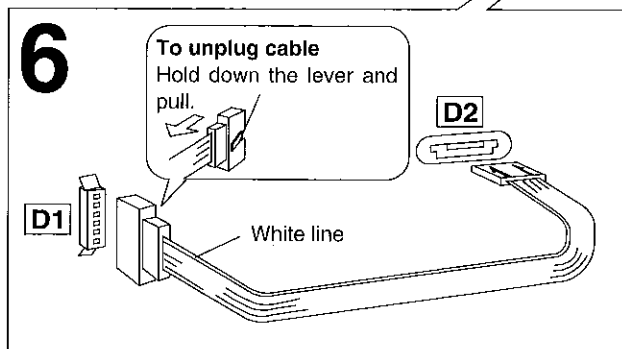
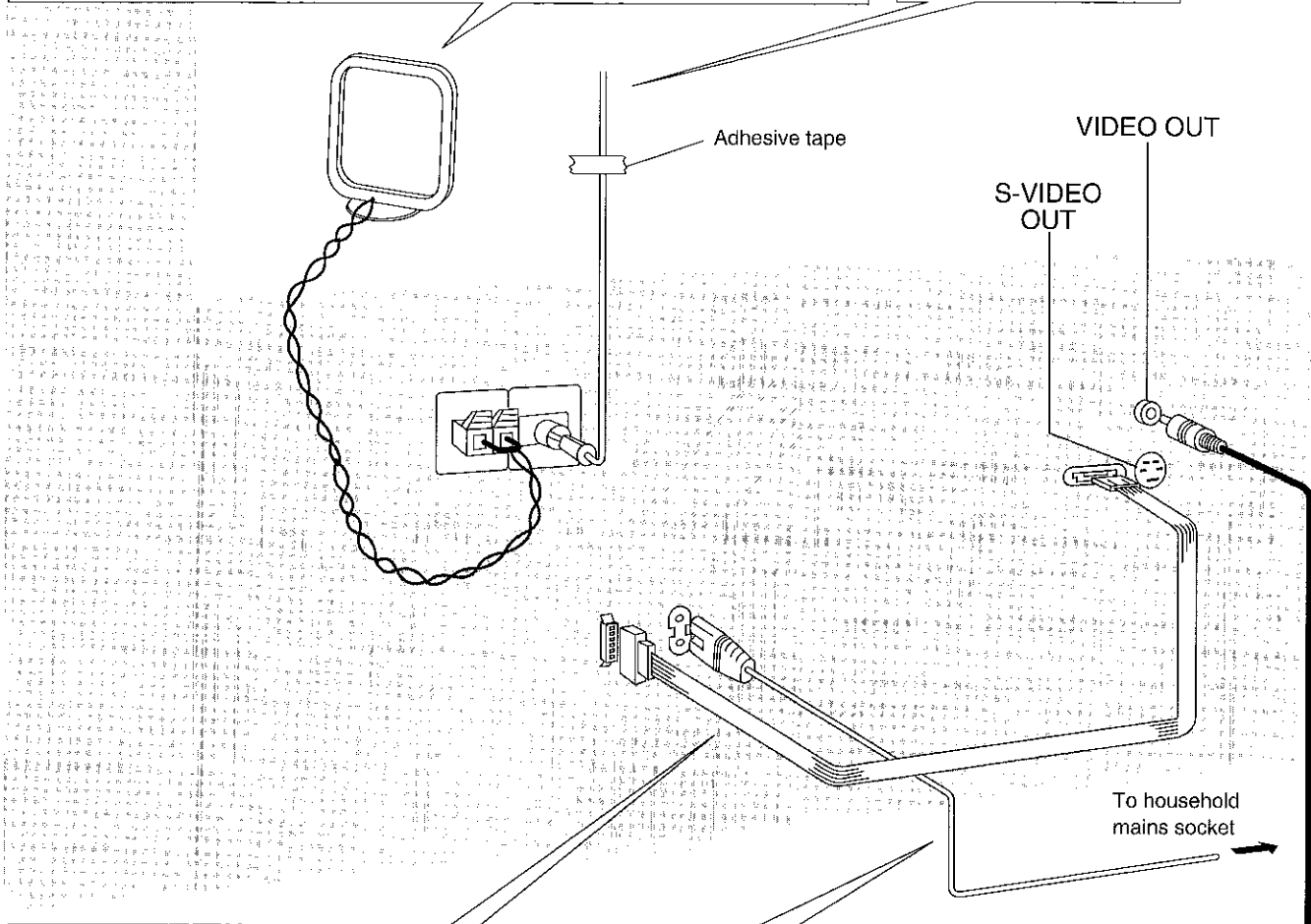
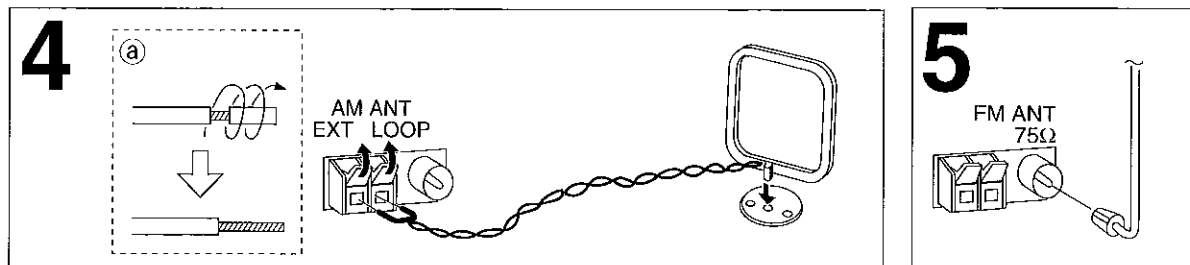
Do not play distorted sounds over extended periods.

You can damage your speakers by playing sounds that include high levels of noise. Reduce the volume in the following cases.

- When turning the amplifier off.
- When playing noise from FM broadcasts over extended periods.

Installation and connections

Before use



4 AM loop antenna.

To prepare antenna, twist the vinyl tip and pull off (a).
Keep loose antenna cord away from other wires and cords.

5 FM antenna.

Fix the other end of the antenna where reception is best.

6 Surround cable.

(United Kingdom only)

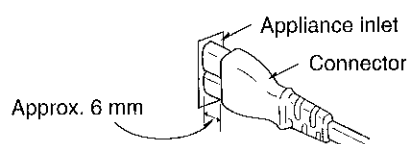
BE SURE TO READ THE CAUTION FOR THE AC MAINS LEAD ON PAGE 4 BEFORE PROCEEDING TO STEP 7.

7 Connect the AC mains lead.

Insertion of connector

Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing.

However there is no problem using the unit.



For your reference

Information you enter into the unit's memory, except for time, remains intact for up to two weeks after the mains lead is disconnected.

Note

The included AC mains lead is for use with this unit only. Do not use it with other equipment.

A Television (not included) connection

Connect to a television that has a video-input terminal.

S-VIDEO OUT terminal

If your television has an S-video input terminal, use an S-video cable (not included) to connect to this unit. You can achieve better quality video with this connection. Connecting the included video cord is not necessary if you do so.

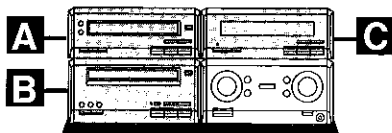
Connect your DVD player directly to your TV set

(b).

If the DVD player is connected to the TV through a video cassette recorder, the picture may not be played back normally with some DVDs. So we strongly recommend you not to connect the DVD player to your video cassette recorder when setting up your home entertainment system.

Use the RCAJ adaptor (included) if your TV has 21-pin SCART terminal (c).

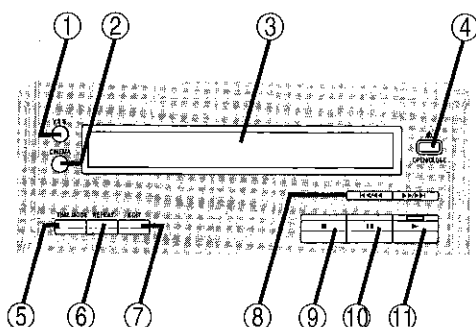
You do not have to connect anything to the AUDIO terminals.



Front panel controls

Before use

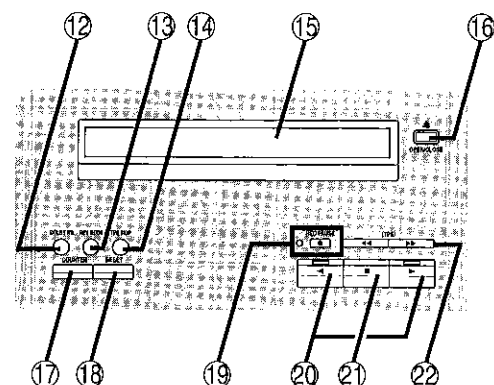
A



A DVD player

- ① V.S.S. (Virtual Surround Sound) button/indicator (V.S.S.) 23
 - ② Cinema mode button/indicator (CINEMA) 23
 - ③ Disc tray
 - ④ Disc tray open/close button (▲ OPEN/CLOSE) 16
 - ⑤ Time mode button (TIME MODE) 19
 - ⑥ Repeat button (REPEAT) 20
 - ⑦ CD edit button (EDIT) 35
 - ⑧ Skip/search buttons (◀◀/▶▶, ▶▶/▶▶) 18, 19
 - ⑨ Stop button (■) 16
 - ⑩ Pause button (⏸) 16
 - ⑪ Play button and indicator (▶) 16
- The color of the indicator depends on the operation taking place.
 If stopped: orange
 If playing: green
 When paused or the resume function is on: flashes

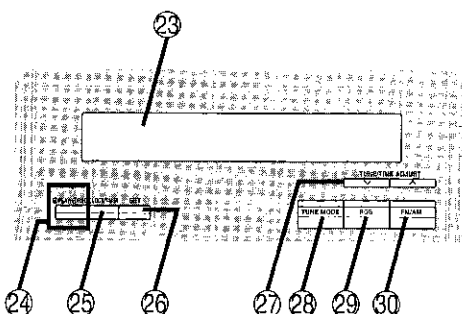
B



B Cassette deck

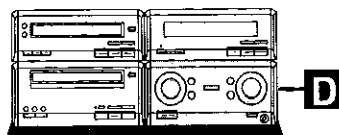
- ⑫ Dolby noise reduction button (DOLBY NR) 31
 - ⑬ Reverse mode select button (REV MODE) 31
 - ⑭ Tape Program Sensor button (TPS SKIP) 32
 - ⑮ Cassette holder
 - ⑯ Cassette tray open/close button (▲ OPEN/CLOSE) 31
 - ⑰ Counter button (COUNTER) 33
 - ⑱ Counter reset button (RESET) 31
 - ⑲ Record pause button and indicator (● REC PAUSE) 34
 - ⑳ Playback buttons and indicators (◀, ▶) 31
- The color of the indicator depends on the operation taking place.
 If stopped, fast forwarding or rewinding: orange
 If playing or recording: green
 While carrying out TPS or recording is on standby: flashes
- ㉑ Stop button (■) 31
 - ㉒ Fast forward/rewind buttons [◀◀ (TPS) ▶▶] 32

C



C Tuner

- ㉓ Display panel
The display also shows information for the cassette deck, DVD player, and amplifier.
- ㉔ Play timer/record timer button and indicator (⏱ PLAY/⏱ REC) 38, 39
- ㉕ Clock/timer button (CLOCK/TIMER) 14, 38
- ㉖ Set button (SET) 14, 38
- ㉗ Tuning/time adjust buttons (TUNE/TIME ADJUST ∇, ▲) 14, 29, 38
- ㉘ Tuning mode button (TUNE MODE) 29
- ㉙ RDS button (RDS) 29
- ㉚ Band select button (FM/AM) 29



Front panel controls

D Amplifier

- 31 Input selector (INPUT SELECTOR) 46
- 32 VGCA indicator (VGCA) 36
- 33 Volume control (VOLUME) 16
- 34 Standby indicator

When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.
- 35 Standby/on switch (⏻/⏻) 14

Press to switch the unit from on to standby mode or vice versa.

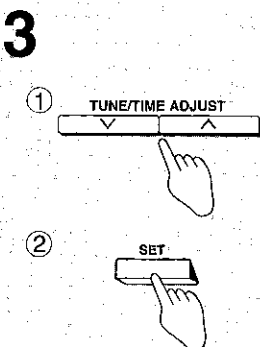
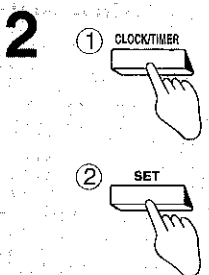
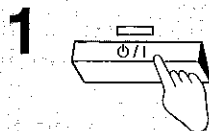
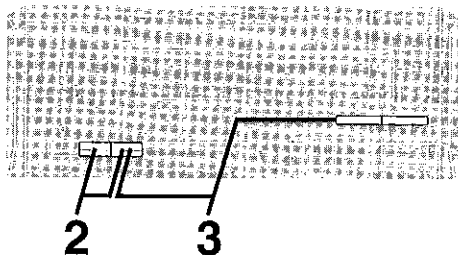
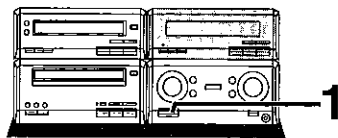
In standby mode, the unit is still consuming a small amount of power.
- 36 Bass buttons (BASS ▲, ▼).....36
- 37 Treble buttons (TREBLE ▲, ▼).....36
- 38 VGCA/Cinema bass button (-VGCA, -CINEMA BASS).....36
- 39 Headphone jack (PHONES).....37

E Remote control

Buttons 25 and 50 function the same as the controls on the main unit.

- 40 Sleep timer button (SLEEP) 40
- 41 Numbered buttons 17, 18
- 42 Subtitle button (SUBTITLE) 23
- 43 Top menu button (TOP MENU) 21
- 44 Cursor/Enter buttons (◀ ▶ ▲ ▼ ENTER).....15, 17
- 45 Display/Setup button (DISPLAY, SETUP).....15, 26
- 46 Input select buttons
(DVD/CD, TAPE, EXT, TUNER).....16, 29, 32, 46
- 47 Basic operating buttons
Function changes according to the source.
- 48 Shift button (SHIFT) 15
- 49 Muting button (MUTING) 37
- 50 Cancel button (CANCEL) 25
- 51 Audio/Angle button (AUDIO, ANGLE) 22, 23
- 52 Menu button (MENU) 21
- 53 Return button (RETURN).....15
- 54 FM mode select button (AUTO/MONO).....29
- 55 Slow/Search buttons (◀◀ SLOW/SEARCH ▶▶) 19
- 56 Play mode select button (PLAY MODE).....24
- 57 Repeat/A-B repeat button (REPEAT, A-B REPEAT) 20, 21
- 58 Volume/Balance buttons
(- VOLUME +, BALANCE L, BALANCE R) 16, 37

Before use



Setting the time

This is a 24-hour clock.

The example shows how to set the clock for 16:25 (4:25 pm).

- 1 Press [⏻/I] to turn the unit on.**
- 2**
 - ① Press [CLOCK/TIMER] to display "CLOCK".**
Each time you press the button:
CLOCK → ⏻ PLAY → ⏻ REC → Original display
 - ② Within 7 seconds Press [SET].**
- 3**
 - ① Press [TUNE/TIME ADJUST (∇ or ▲)] to set the time.**
 - ② Press [SET].**
The time is set and the original display is restored.

Displaying the clock

Press [CLOCK/TIMER].

The clock is shown for about 5 seconds.

Reset the clock regularly.

Conserving power

The unit consumes 0.9 W even when it is turned off with [⏻/I]. To save power when the unit is not to be used for a long time, unplug it from the household mains socket. Remember to reset the radio stations and any other memory items before using the unit again.

Television settings

The menu language has been factory preset to English. You can change the language by going to Display–Menu Language (→ pages 41–42).

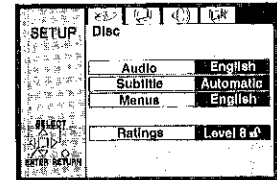
Set the screen size to suit your television. The initial setting is for a regular television with an aspect ratio of 4:3.

Preparation

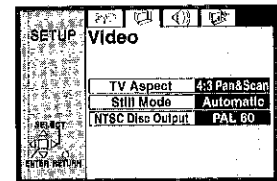
- Turn the television on.
- Switch the video input mode on the television to suit the type of connection you have made (e.g., VIDEO 1).

1 Press [DVD/CD] to select “DVD” as the source.

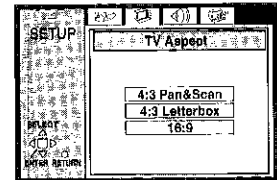
2 Press [SHIFT] + [SET UP] to display the settings screen on the television.



3 Press the cursor button (▶) to select the Video tab, and press [ENTER].



4 Press the cursor buttons (▼ or ▲) to highlight the required size, and press [ENTER].



4:3: regular television

If you select Pan & Scan, the video for widescreen televisions is cut to fit a regular 4:3 screen (a).

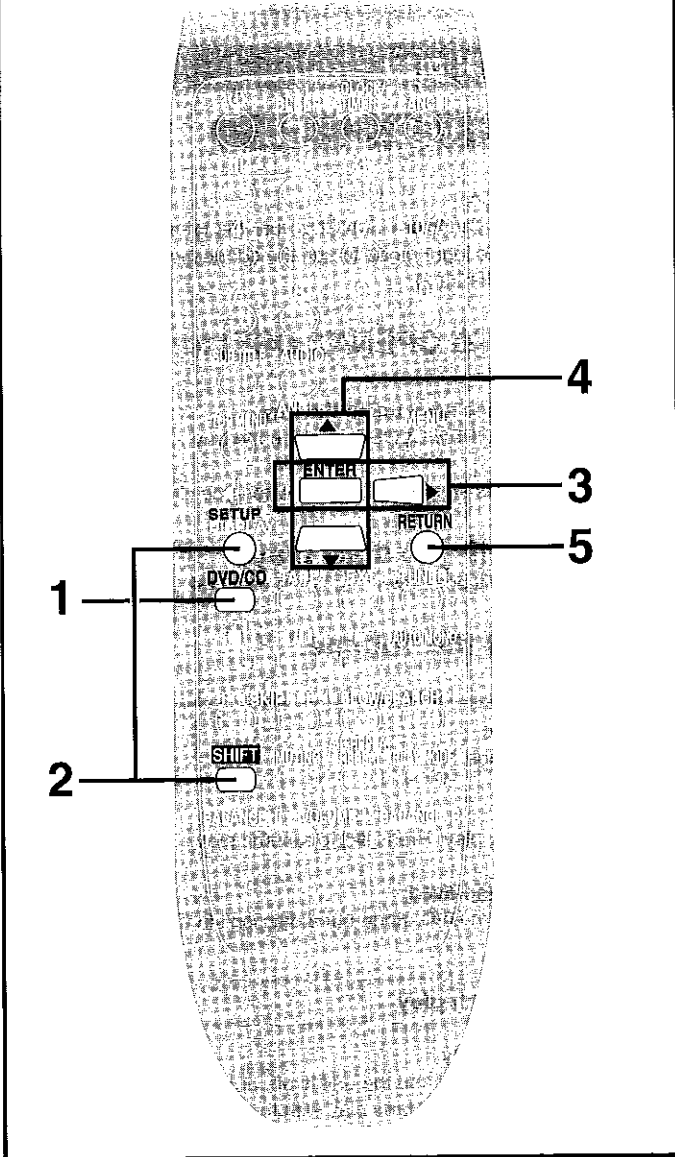
If you choose Letterbox, the video for widescreen televisions is shown in full on a regular 4:3 television. This causes black bands to appear at the top and bottom of the screen (b).

16:9: widescreen television

5 Press [RETURN] to complete the settings.

For your reference

The picture size on some DVDs cannot be adjusted with this setting.

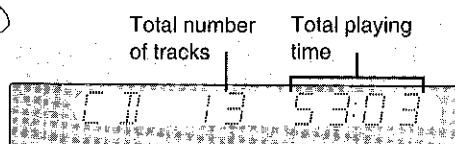
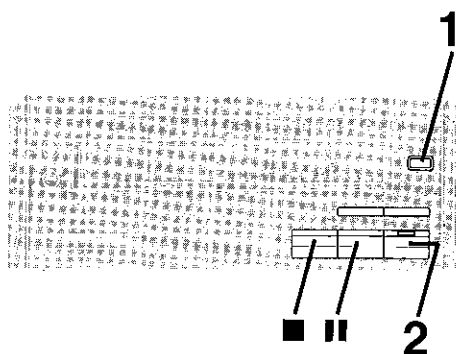
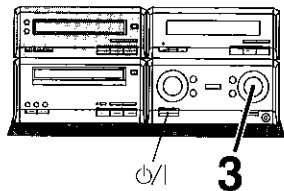


(a)

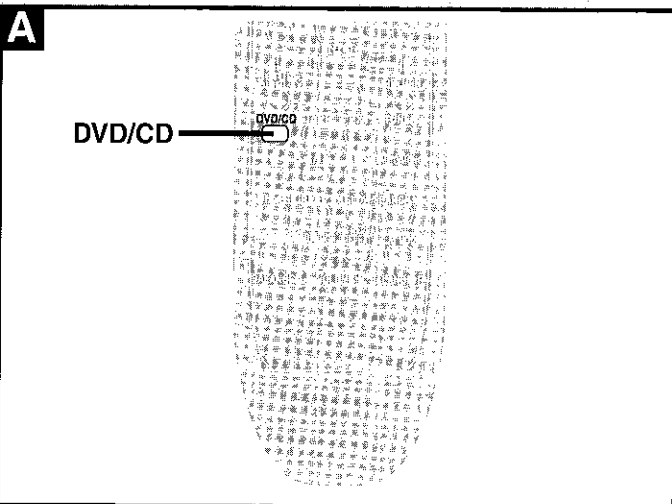
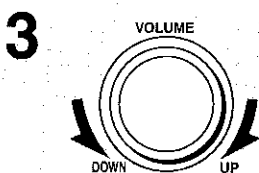
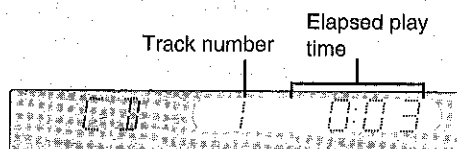
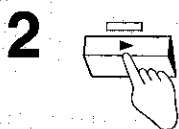
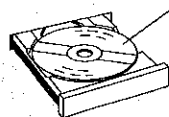


(b)





Label must
face upward.



Playing DVDs and CDs

Screens illustrated are examples.

Normal play

DVD VCD CD

Preparation

- Turn the unit on.
- When playing DVDs or video CDs, turn the television on and switch its video input mode to suit the connections you have made (e.g., VIDEO 1).

1 Press [▲ OPEN/CLOSE] to open the tray.

Set the disc label up on the tray.
Press [▲ OPEN/CLOSE] to close the tray.

Most DVDs start automatically when you close the disc tray.

2 Press [▶] to start play.

A menu will be shown with some discs (→ page 17).

3 Adjust the volume.

To stop the disc

Press [■] (→ page 17).

To pause play

Press [⏸] during play. Press [▶] to resume play.

"NO DISC" is displayed

When the unit is in DVD mode but a disc isn't in the player.

A One touch play

Remote control only

When a disc is loaded and the unit is off, press [DVD/CD].
The unit comes on and starts play with the volume fading in.

Playing DVD and Video CDs

The producer of the material can control how these discs are played. This means that you may not be able to control play with some of the operations described in these operating instructions. Read the disc's instructions carefully.

The symbol "⊙" appears on the television when you perform an operation to indicate it is not allowed at that time.

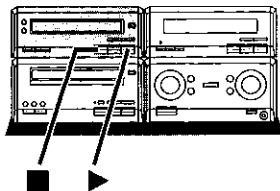
Playing karaoke discs

After playing a track, you will normally be shown a menu. Some discs allow you to play all the tracks in succession. Others will play all the tracks in succession automatically.

DVD volume

Volume may be lower when playing DVDs than when playing other discs.

If you turn the volume up, ensure you reduce the volume again before playing other sources so that a sudden increase in output does not occur.



Playing DVDs and CDs

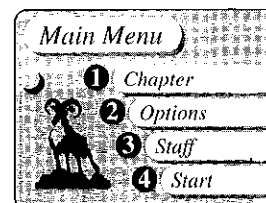
If a menu screen is shown

DVD

VCD

A menu screen is shown on your television shortly after starting some DVDs and Video CDs. To continue play you must make a selection.

(menu example)



Press the cursor buttons (◀▲▼▶) to highlight an item.

Press [ENTER] to confirm your selection.

OR

Press the numbered button corresponding to the menu item.

For items numbered 10 and over, press [≥10/-/-] then the two digits.

e.g. 10: [≥10/-/-] → [1] → [0]

e.g. 25: [≥10/-/-] → [2] → [5]

Video CD menu items can only be selected with the numbered buttons.

Other buttons used to operate menus

The operation of these buttons differs with the disc so read the instructions that came with the disc for further details.

[◀◀ SKIP ▶▶]: Shows the next menu.

[RETURN]: Shows the previous menu.

[MENU]: Shows the menu screen (DVD).

[TOP MENU]: Shows the first menu screen (DVD).

Resume function

DVD

VCD

CD

When [■] is pressed.

The play indicator flashes to indicate that the resume function is active.

Using the resume function to restart play

While the play indicator is flashing, press [▶].

Play starts from where it was stopped.

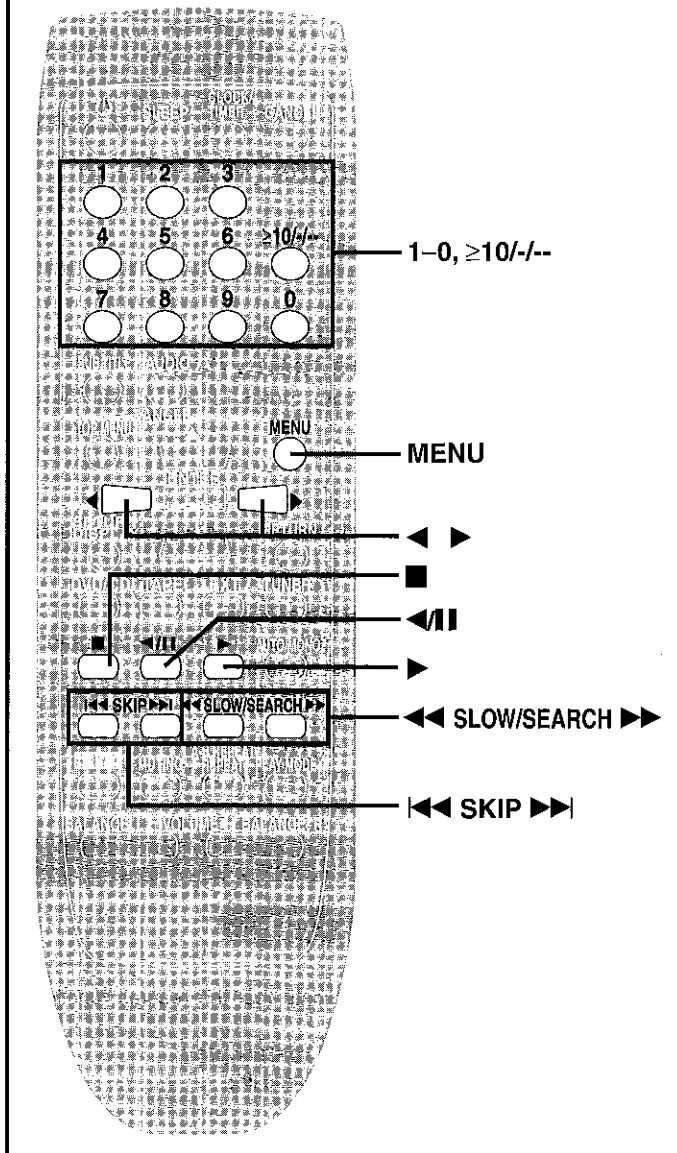
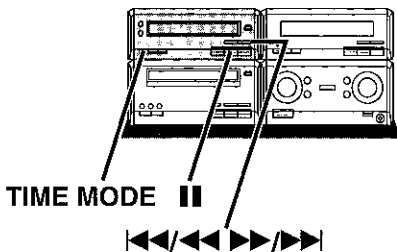
If you are playing DVD, you can activate the CHAPTER REVIEW function while the message, "Press PLAY to Chapter Review" is shown on your television. This message appears for a few seconds before play is resumed.

Press [▶] while this message is shown on your television and the beginning portions of each chapter up to the current one are played. Full play resumes from the point play was stopped at.

CHAPTER REVIEW is not possible with some DVD.

Note

- Resume is canceled if you open the disc tray or change the play mode (RANDOM → page 24 and PROGRAM → page 25).
- Resume does not work if the disc's play time is not displayed.
- The position is saved even if the unit is turned off.



Other modes of play

Skipping tracks and chapters

DVD VCD CD

Press [◀◀] (backward) or [▶▶] (forward) on the remote control.

OR

[◀◀/▶▶] or [▶▶/▶▶] on the main unit.

Each press increases the number of skips.

The first skip backwards takes you to the beginning of the current track or chapter.

Note

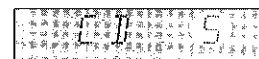
- If pressed while a DVD or Video CD menu is on the screen, you may return to the previous menu.
- Skip will not work with some discs.

Starting play from a selected track or title

DVD VCD CD

While stopped or playing

Press the numbered buttons.



To select a track or title numbered 10 and over, press [≥10/-/] then the two digits.

e.g. 10: [≥10/-/] → [1] → [0]

e.g. 25: [≥10/-/] → [2] → [5]

Note

Cancel playback control on video CDs with this feature first.

Canceling the playback control feature on Video CDs

Canceling playback control allows you to play the disc all the way through from the beginning.

1. Press [■].
"PBC" on the unit's display goes out.
2. Press the numbered buttons to select the track where you want to start play.

There are some video CDs with PBC where this will not work.

To restore playback control

1. Press [■] to stop play.
2. Press [MENU] on the remote control.
"PBC" appears on the unit's display.

Fast forward and rewind - Search

DVD

VCD

CD

During play

Press [**◀◀**] (backward) or [**▶▶**] (forward) on the remote control.

Each press increases the speed of the search. There are five speeds.

OR

Press and hold [**◀◀/◀◀**] or [**▶▶/▶▶**] on the main unit.

The search speed increases in five steps if the button is held down.

Audio may be heard during fast-forward and rewind.

You can turn this audio off if you want to (DVD and Video CDs only, ➔ pages 41–42).

To resume play

Press [**▶**].

Note

If pressed while a DVD or Video CD menu is on the screen, you may return to the previous menu.

Slow motion

DVD

VCD

While paused

Press [**◀◀**] (backward) or [**▶▶**] (forward) on the remote control.

Each press increases the speed of the slow motion. There are five speeds.

OR

Press and hold [**◀◀/◀◀**] or [**▶▶/▶▶**] on the main unit.

The slow motion speed increases in five steps if the button is held down.

To resume play

Press [**▶**].

Note

You cannot move backwards with video CD.

Frame-by-frame viewing

DVD

VCD

While paused

Press the cursor buttons (**◀** or **▶**).

◀: Backward

▶: Forward

- The frame changes each time you press a button.
- The frames change in succession if you press and hold the button.
- The frames also advance if you press [**⏮**] on the main unit or [**◀⏮**] on the remote control.

To resume play

Press [**▶**].

Note

You cannot move backwards with video CD.

Switching time displays - Time mode

VCD

CD

Press [**TIME MODE**] on the main unit.

The display change each time the button is pressed.

The displays shown depend on the condition of the player.*

(example - During play)

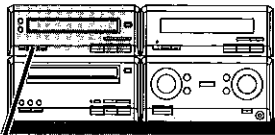
Track elapsed time : ▶ track remaining time : ▶ disc remaining time

↑ _____

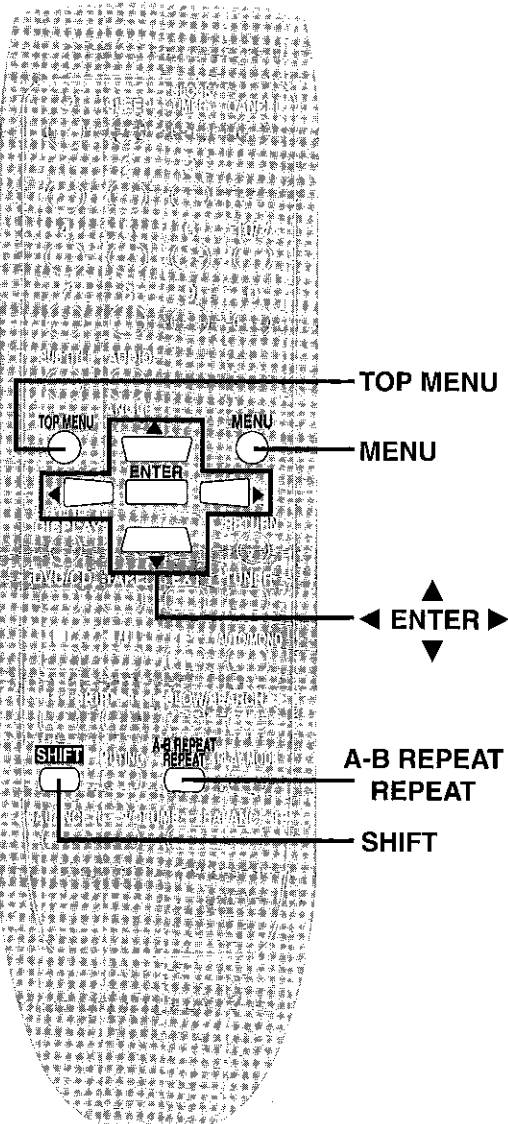
* The disc remaining time, for example, is not shown during random play, program play, and CD editing.

Note

You can use this feature with Video CD if you cancel playback control (➔ page 18).



REPEAT



Other modes of play

Repeat play

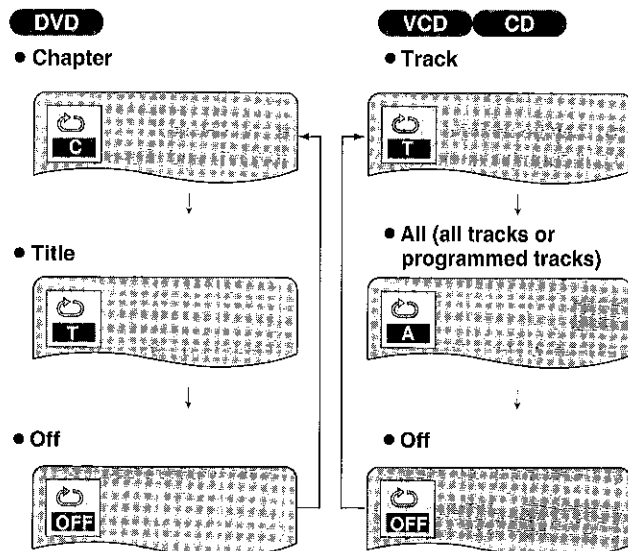
DVD VCD CD

This feature allows you to repeat titles, tracks and chapters.

Press [REPEAT] during play to select the required repeat play mode.

The mode changes each time you press the button.

The modes depend on the type of disc you are playing.



Note

- There is no feature to repeat the whole disc for DVD that contain more than one title.
- Repeat play does not work with some DVDs. It also doesn't work with interactive DVDs and video CDs with playback control.

A-B repeat

DVD

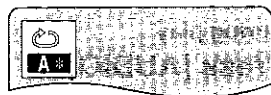
VCD

CD

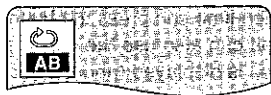
This feature repeats play between two points that you specify.

During play

- 1 Press [SHIFT] + [A-B REPEAT] at the starting point (A).



- 2 Press [SHIFT] + [A-B REPEAT] at the finishing point (B).



Play repeats continuously between these two points.

To cancel

Press [SHIFT] + [A-B REPEAT].

Note

- A-B repeat works only within a single track or title. The unit automatically determines the end of a title or track as point B.
- Subtitles may not appear between A and B.
- Repeat and A-B repeat cannot be used together.
- This feature cannot be used if the play time for the DVD is not displayed.

Using menus to play

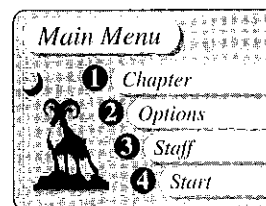
DVD

Menu content depends on disc. These operating instructions describe the basic steps.

While stopped or playing

- 1 Press [TOP MENU] or [MENU].

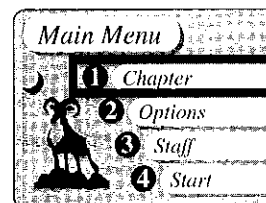
A menu screen is displayed.
(Press again to return to what you were watching with some discs.)



- 2 Select an item with the cursor buttons (◀▲▼▶) and press [ENTER] to confirm the selection.

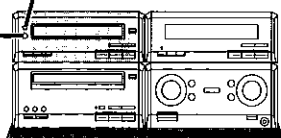
You can select items with the numbered buttons with some discs.

Repeat if another menu is shown.

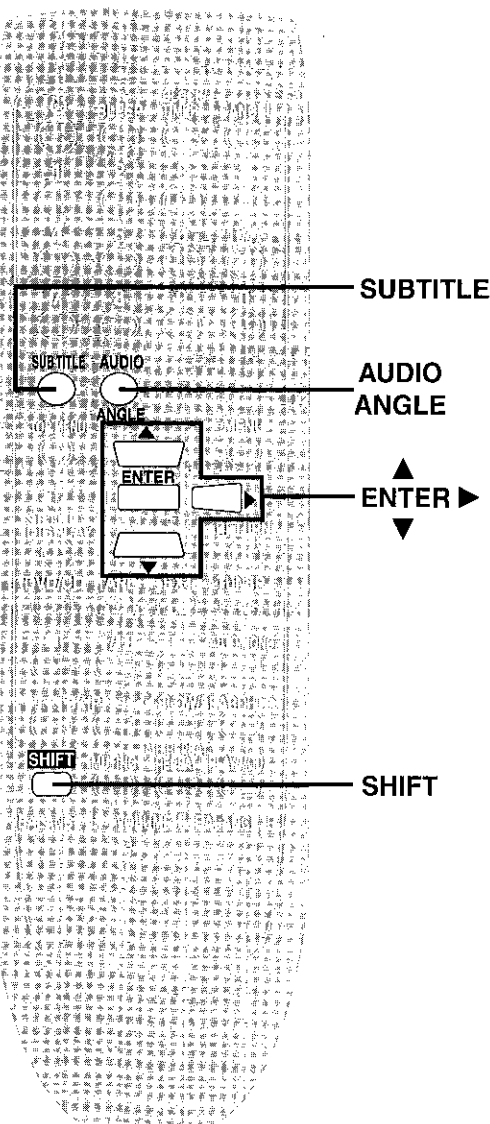


DVDs can have several menus. The menu displayed by pressing [TOP MENU] may be different to the menu displayed by pressing [MENU].

CINEMA
V.S.S.



Disc operations



Other modes of play

Changing soundtracks

DVD

Some DVDs have more than one soundtrack recorded on them, such as multiple languages or PCM, and you can change soundtracks during play.

During play

Press [AUDIO] to display the soundtrack number.

The soundtrack number changes each time you press the button.

You can also use the cursor buttons or numbered buttons while the icon is displayed (about 5 seconds).



Soundtrack number

Note

- You can only select languages or sound formats if they have been recorded on the disc you are playing.
- The default language is restored when the resume function is canceled.

Using this feature with karaoke discs

DVD

VCD

You can use this feature to turn the vocals on and off on karaoke DVD and Video CDs.

1. Press [AUDIO] to show the soundtrack display.



2. Press the cursor button (▶) to select the vocal mode. (DVD only)

Karaoke DVD (solo)

Press the cursor buttons (▲ or ▼) to turn the vocals "ON" and "OFF".

Karaoke DVD (duet)

Press the cursor buttons (▲ or ▼) to switch between "V1", "V1+V2", "V2" and "OFF".

Video CD

Press the cursor buttons (▲ or ▼) to switch between "LR", "L", and "R".

Note

- You can turn the vocals on and off by pressing [AUDIO] if vocals are recorded on the second soundtrack.
- You cannot connect a microphone to this unit.

Soundtrack and subtitle language settings

You can make language settings before play with the Disc settings menu (➡ pages 41–42). Whenever the unit is turned on or the disc is replaced, the unit will specify the language you set. If the language you select is not on the disc, the disc will be played in its primary language.

Despite any changes to the settings, some discs will specify another language when play is started.

Changing subtitle language

DVD

Some DVDs have more than one subtitle language recorded on them, and you can change the language during play.

During play

Press **[SUBTITLE]** to change the subtitle number.



Subtitle number

The subtitle number changes each time you press the button. You can also use the cursor buttons or numbered buttons while the icon is displayed (about 5 seconds).
 "– –" is displayed if subtitles are not recorded on the disc.

To turn the subtitles on and off

After displaying the icon, move the cursor **[▶]** and then move the cursor **[▲]** or **[▼]** to turn the subtitles on or off.

Note

- There may be a slight delay before subtitles are shown.
- You can only select languages if they have been recorded on the disc you are playing.
- The default language is restored when the resume function is canceled.

Switching angles

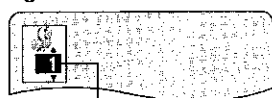
DVD

Some DVDs allow you to view the same scene from different angles.

" " lights up on the unit's display during scenes with multiple angles recorded to indicate this feature is available.

While playing a scene with multiple angles

Press **[SHIFT] + [ANGLE]** to change the current angle number.



Angle number

The angle number changes each time you press the button. You can also use the cursor buttons or numbered buttons while the icon is displayed (about 5 seconds).

Note

Some discs allow you to set angles before multi-angle scenes are played. Read the instructions that come with the DVD.

Virtual Surround Sound (V.S.S.)

DVD

Use this feature to enjoy a surround-like effect if you are using two front speakers. This effect only works with DVD recorded using Dolby Digital with two or more channels.

During play

Press **[V.S.S.]** to select the V.S.S. level on the main unit.



Each time you press the button:

V.S.S. 1 → V.S.S. 2 → V.S.S. OFF : cancel (factory preset)

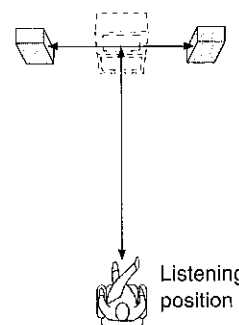
The button lights while V.S.S. is functioning.

Note

- V.S.S. will not work, or will have less effect, with some discs.
- Turn V.S.S. off when using more than just the two front speakers. Sound will only come from the two front speakers if V.S.S. 1 or 2 is on.
- Sound may be disrupted if you change the V.S.S. level while recording.

To get the most from V.S.S.

Situate yourself in front of the television approximately 3 to 4 times the distance between the left and right front speakers.



Listening position

V.S.S. 1 and 2 effects

V.S.S. 1	V.S.S. 2
The front speakers sound like they are further apart. If the disc has surround speaker channels recorded on it, then sound appears to come from the sides even if surround speakers aren't being used.	The V.S.S. 1 effects are broadened.

Cinema mode

DVD

VCD

You can change the picture to one suited for movie viewing.

Turning the cinema mode on and off

During play

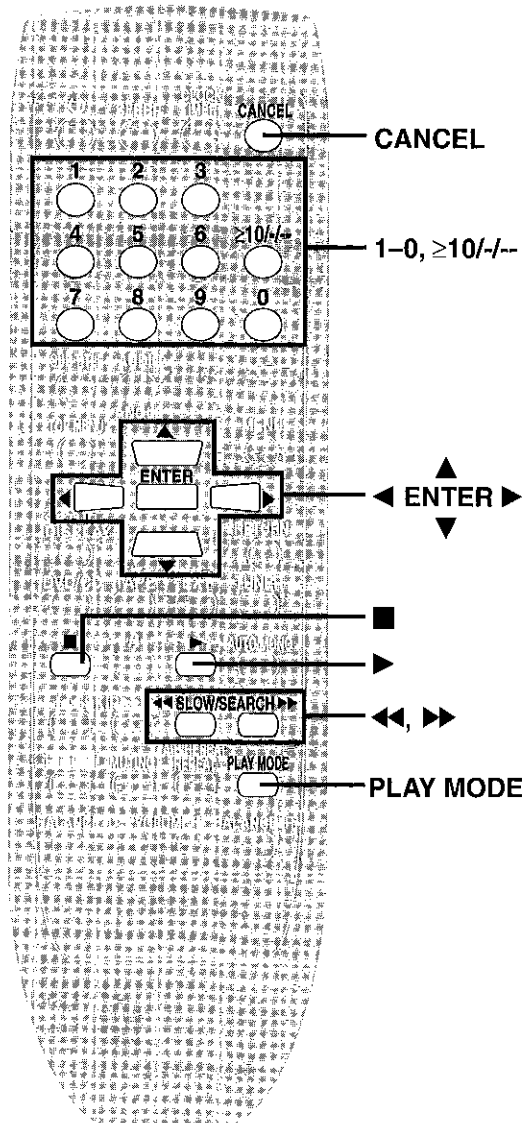
Press **[CINEMA]**.

The button lights while cinema mode is on.

Each time you press the button:

C: Cinema mode → N: Normal mode (factory preset)





Other modes of play

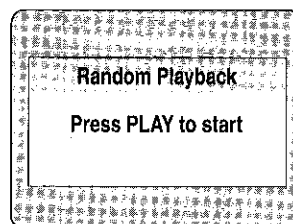
Random play

VCD CD

You can play all the tracks on the disc once each in random order.

While stopped

- 1 Press [PLAY MODE] to display "RANDOM".



Each time you press the button:
PROGRAM → RANDOM → (cancel)

- 2 Press [▶] to start random play.

When random play finishes

The disc stops and the random play screen is shown.

To stop random play

Press [■].
"RESUME" lights on the unit's display.

To exit random mode

During play, press [■] three times.
While stopped ("RESUME" is displayed), press [■] twice.

Time search

Find a part to play by entering the time (⇒ page 26–27).

Marker

Mark favorite parts (⇒ page 26 and 28).

Dialogue Enhancer

Increase center speaker volume to make dialogue clearer (⇒ page 26 and 28).

Playing tracks in a selected order – Program Play

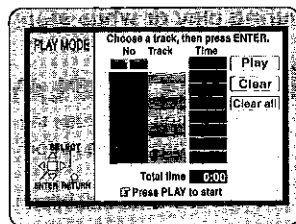
VCD

CD

Select up to 24 tracks to play in the order you choose.

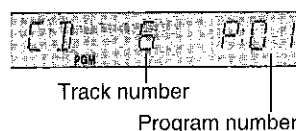
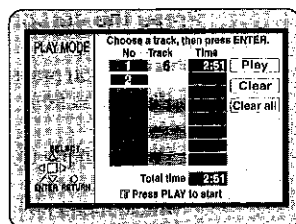
While stopped

- 1 Press [PLAY MODE] to select "PROGRAM".



Each time you press the button:
PROGRAM → RANDOM → (cancel)

- 2 Enter the track number with the numbered buttons.



- 3 To make other selections.

Repeat step 2.
The screen changes automatically if the number of items exceeds eight.
The cursor moves to "Play" when you enter the twenty-fourth item.

- 4 Press [▶] to start program play.

To stop program play

Press [■].
"RESUME" lights on the unit's display.

To return to the programming screen

During play, press [■] twice.
While stopped ("RESUME" is displayed), press [■] once.

To change the program

1. Move the cursor (▲, ▼) to select the item you want to change.
If the program takes up more than one page, you can turn the pages with [◀] and [▶].
2. Do step 2 at left.

To clear items one at a time

1. Move the cursor (▲, ▼) to select the item.
(The selected item is also displayed on the unit's display.)
 2. Move the cursor (▶, ▼) to "Clear".
 3. Press [ENTER].
- You can also clear the item by pressing [CANCEL] after selecting it.

To clear the whole program

1. Move the cursor (▶, ▼) to "Clear all".
2. Press [ENTER].

To exit program mode

During play, press [■] three times.
While stopped ("RESUME" is displayed), press [■] twice.
While the programming screen is displayed, press [■] once.
"PGM" disappears from the unit's display when you exit the mode.
The program is cleared when you do this.

DVD

VCD

CD

GUI are icons that appear on the screen that allow you to interact with the player. The long thin GUI that show information about the player and discs are called GUI screens.

Basic GUI operation

During play or while stopped

1 Press [DISPLAY].

Each time you press the button:

- ▶ Icons for disc information (a)
- ↓
- Icons for unit information (b)
- ↓
- Shuttle screen (c)
- ↓
- Original display (d)
- The screens depend on the disc contents.

Icons for unit information only

While the leftmost icon is highlighted

Press the cursor buttons (▲ or ▼) to select the menu.

Each time you press the button:

- Play menu (e)
- ↓
- Display menu (f)
- ↓
- Audio menu (g)
- ↓
- Video menu (h)

2 Press the cursor buttons (◀ or ▶) to select the item.

3 Press the cursor buttons (▲ or ▼) to select the setting.

Some items require different operations. Read the explanations on the following pages.

For your reference

Some functions cannot be accessed from the stop mode (e.g. changing the soundtrack language).

To clear the icons

Press [RETURN] until the menus disappear.

To change the position of the icons

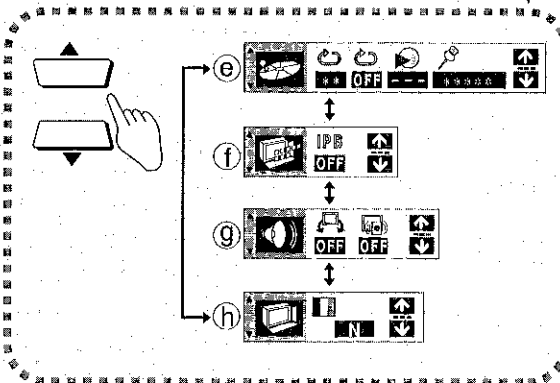
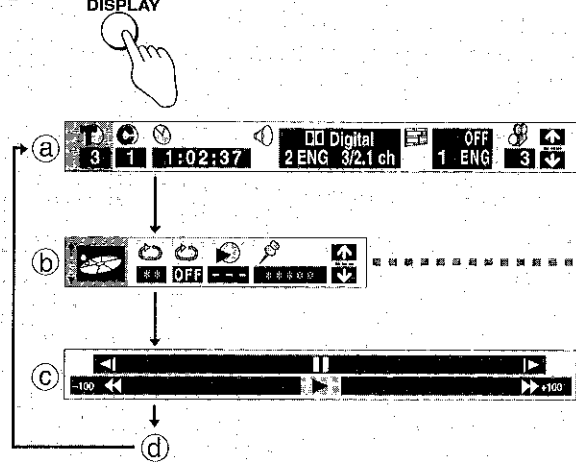
You can lower the position of the icons on the screen if they are cut off for some reason. There are 5 positions to choose from.

1. Press the cursor buttons (◀ or ▶) to select the rightmost icon.
2. Press the cursor buttons (▲ or ▼) to move the icon.

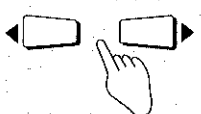


1

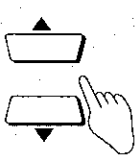
SETUP
DISPLAY



2



3



Example



Icons for disc information

Icon	Content
	DVD Title number [ENTER] VCD CD Track number [ENTER]
	DVD Chapter number [ENTER]
	DVD Time search (select a position to start play by specifying a time) example; 1 hour, 2 minutes and 37 seconds 1 → 0 → 2 → 3 → 7 → [ENTER] VCD CD Changing the time display - Track elapsed time - Track remaining time - Disc remaining time
	DVD Soundtrack language (See A at right for language abbreviations.)
	DVD Audio signal type (See B at right for details.)
	DVD (karaoke disc only) Karaoke vocal on/off Solo : OFF or ON Duet : OFF, V2, V1+V2 or V1
	VCD Audio mode LR — L — R
	DVD Subtitle language (See A at right for language abbreviations.)
	DVD Subtitle on/off
	DVD Angle number
	VCD (with playback control only) Menu play Indicates whether menu play (PBC) is on or off. Cannot be changed here.

Note

- DVD time search can only be performed within a title.
- You cannot do time search during random or program play.
- Press [CANCEL] to cancel partway through.
- You cannot change the time display when "PBC" is displayed on the unit's display.

A Soundtrack/Subtitle language

ENG : English	SVE : Swedish	CHI : Chinese
FRA : French	NOR : Norwegian	KOR : Korean
DEU : German	DAN : Danish	MAL : Malay
ITA : Italian	POR : Portuguese	VIE : Vietnamese
ESP : Spanish	RUS : Russian	THA : Thai
NLD : Dutch	JPN : Japanese	* : Others

B Signal type/data

LPCM/Digital/DTS/MPEG: Signal type

k (kHz): Sampling frequency

b (bit): Number of bits

ch (channel): Number of channels

Example:

3 / 2 .1 ch

1:	Subwoofer signal (not displayed if there is no subwoofer signal)
0:	No surround
1:	Mono surround
2:	Stereo surround (left/right)
1:	Center
2:	Front left + Front right
3:	Front left + Front right + Center

Icons for unit information

Play menu

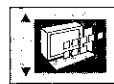


Icon	Content
	DVD VCD CD A-B repeat (→ page 21) [ENTER] (start point) → [ENTER] (finish point) To cancel [ENTER]
	Repeat play (→ page 20) DVD C (Chapter) — T (Title) — OFF [] VCD CD T (Track) — A (All) — OFF []
	VCD CD Play mode display ---: Off PGM: Program play RND: Random play Cannot be changed here.
	DVD VCD CD Marker You can mark up to 5 positions to play again. [ENTER] To mark a position [ENTER] (at the desired point) To mark another position [◀, ▶] → [ENTER] To recall a marker [◀, ▶] → [ENTER] To erase a marker [◀, ▶] → [CANCEL]

Note

- A-B repeat play (DVD), repeat play and marker function do not work if the disc's elapsed play time is not shown on the unit's FL display.
- Markers can not be used with some DVDs or when "PBC" (→ page 18) is on.
- Some subtitles or pictures may fail to appear around the marker (DVD).
- Markers are cleared when you turn off the unit or open the disc tray.
- Markers are cleared when you change the input mode.

Display menu



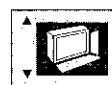
Icon	Content
	DVD IPB display (→ page 49) Display the picture type (I/P/B) in the still picture mode. ON — OFF

Audio menu



Icon	Content
	DVD (Dolby Digital, 2-channel or over only) Virtual Surround Sound (V.S.S.) (→ page 23) 1 — 2 — OFF []
	DVD (This function is effective with Dolby Digital, 3 channels or over, where the dialogue is recorded in the center channel) Dialogue Enhancer ON — OFF

Video menu



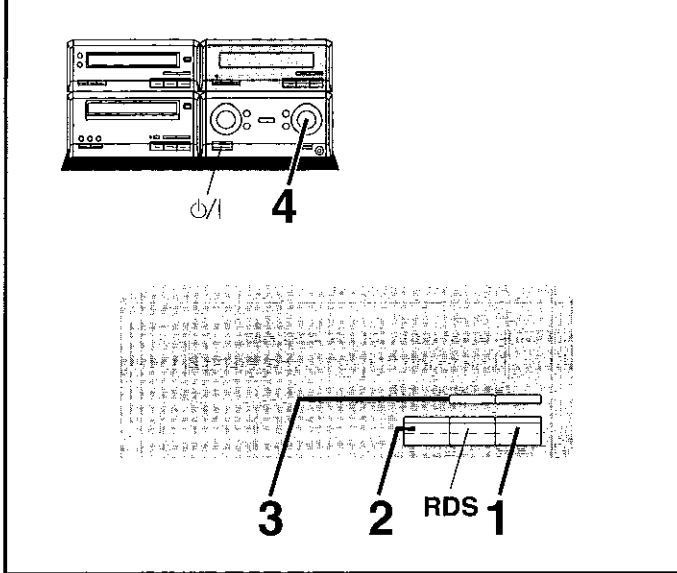
Icon	Content
	DVD VCD Cinema mode N: Normal mode

Shuttle screen

DVD VCD CD

Icon	Content
	Pause
	Slow-motion play ◀ : Backward (DVD only) ▶ : Forward (DVD, Video CD only)
	Play
	Search ◀◀ : Backward ▶▶ : Forward

- There are five speeds for both backward and forward slow-motion and search.
- The numbers on either side of the shuttle screen indicate the maximum speeds of the search.



The radio: manual tuning

Radio stations can be tuned manually by selecting the station's frequency or they can be preset into channels to make it easy to tune with the remote control (→ page 30).

Preparation: Turn the unit on.

1 Press [FM/AM] to select the band.

Each time you press the button:
FM ↔ AM

2 Press [TUNE MODE] to select "MANUAL".

Each time you press the button:
MANUAL ↔ PRESET

3 Press [TUNE/TIME ADJUST (∇ or ▲)] to select the frequency of the required station.

"TUNED" is displayed when a radio station is tuned.

"ST" is displayed when a stereo FM broadcast is being received.

4 Adjust the volume.

Auto tuning

Press and hold [TUNE/TIME ADJUST (∇ or ▲)] for a moment until the frequency starts changing rapidly. The unit begins auto tuning, stopping when it finds a station.

RDS broadcasting

This unit can display the text data transmitted by the radio data system (RDS) available in some areas.

Changing the display

Press [RDS].

Each time you press the button:

- PS display (the name of the station)
- ↓
- PTY display (the type of program)
- ↓
- Frequency display

Note

RDS displays may not be available if reception is poor.

A One touch play

Remote control only

When the unit is off, press [TUNER].

The unit comes on and starts playing the radio with the volume fading in. Press [TUNER] again to select the band.

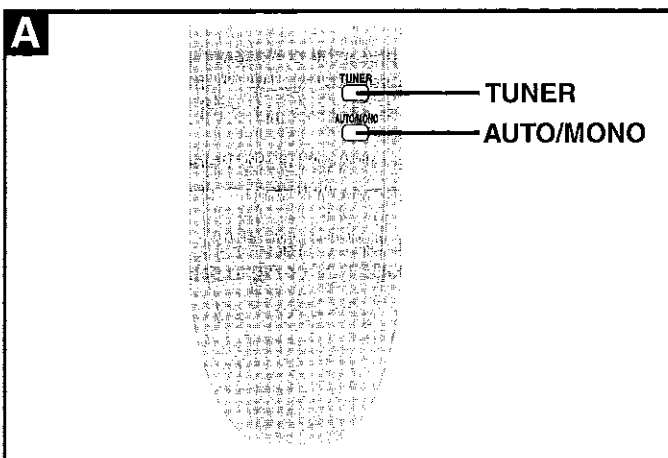
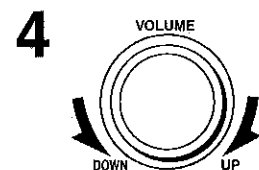
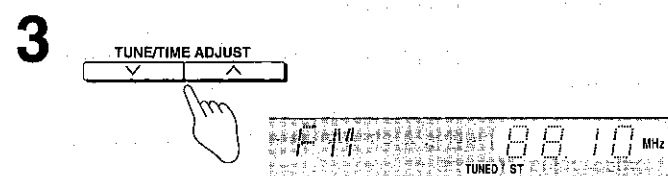
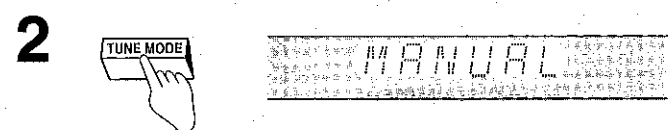
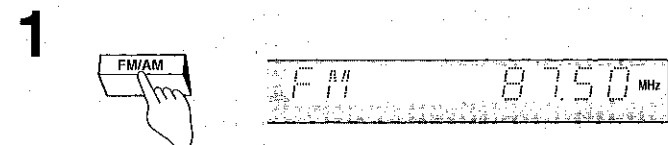
A If noise is excessive in FM

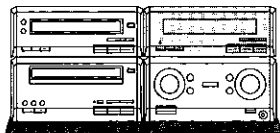
Remote control only

Press [AUTO/MONO] to display "MONO". This mode improves sound quality if reception is weak for some reason but broadcasts are heard in monaural.

Press [AUTO/MONO] again to cancel the mode. MONO is also canceled if the frequency is changed.

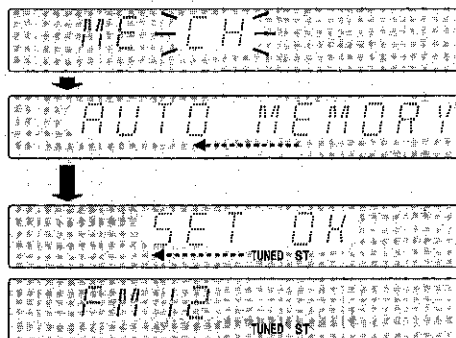
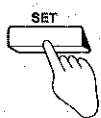
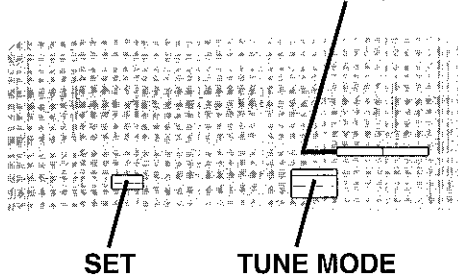
Leave the tuner in AUTO for normal listening. Stereo and monaural broadcasts are automatically played as they are received.



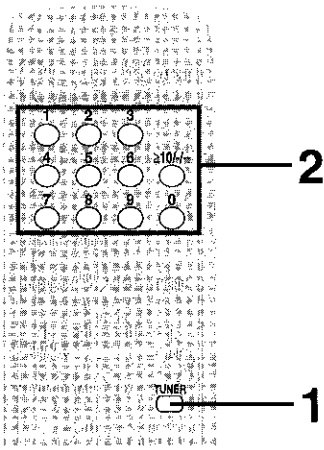


A

TUNE/TIME ADJUST ∇, Δ



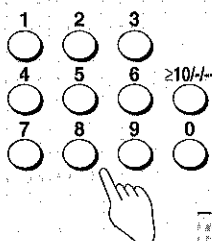
B



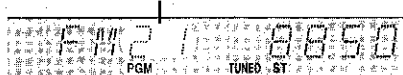
1



2



Preset channel



The radio: preset tuning

Choose either automatic presetting, which presets all the stations the tuner can receive, or manual presetting, which allows you to select the stations to preset and the order they are to be preset in. There are 39 channels available for presetting.

A

Automatic presetting

Do the following once each for FM and AM.

Preparation: Tune to the frequency presetting is to begin at (→ page 29).

Hold down [SET].

Release the button when "AUTO MEMORY" appears.

The tuner presets all the stations it can receive into the channels in ascending order. FM stations are preset into channels 1 to 39, and AM stations are preset into channels 21 to 39.

"SET OK" is shown when presetting is complete and the last station to be preset is played.

"ERROR" is displayed if the tuner doesn't receive any stations. Do presetting manually if this happens (see below).

Note

AM stations replace any FM channels that were preset in channels 21 to 39.

Manual presetting

Preset the stations one at a time.

- ① Tune to the required station.
- ② Press [SET].
- ③ Press [TUNE/TIME ADJUST (∇ or Δ)] to select a channel.
- ④ Press [SET].

The station occupying a channel is erased if another station is preset in that channel.

B

Selecting channels

On the remote control

1 Press [TUNER].

The unit automatically comes on.

2 Press the numbered buttons to select the channel.

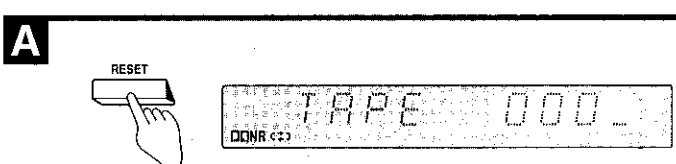
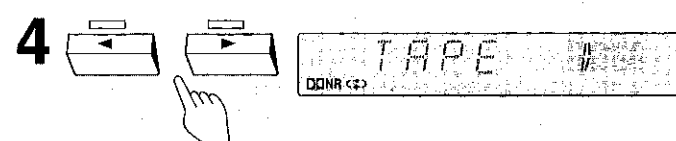
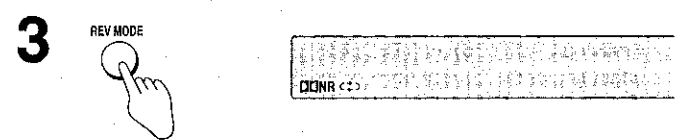
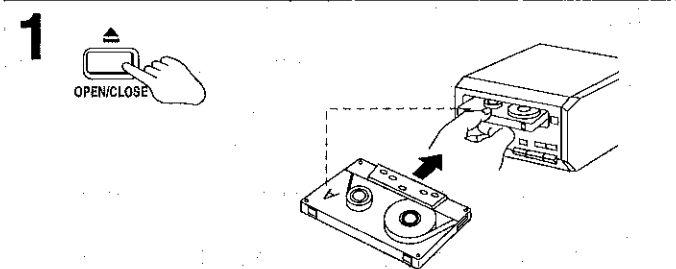
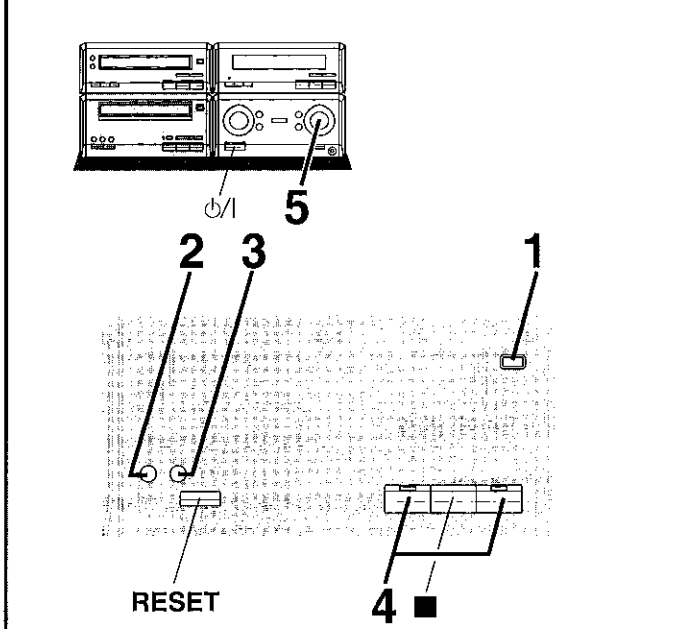
For channels 1 to 9 press the corresponding number.

For channels 10 or over press [$\geq 10/-/-$], then the two digits.
e.g. To select channel 21: [$\geq 10/-/-$] → [2] → [1]

"PGM" lights when a preset station is selected.

On the main unit

1. Press [TUNE MODE] to select "PRESET".
2. Press [TUNE/TIME ADJUST (∇ or Δ)] to select the channel.



Cassette tapes

Preparation: Turn the unit on.

- 1 Press [▲ OPEN/CLOSE], insert the cassette with the tape facing in.**
Make sure the cassette is fully inserted and press [▲ OPEN/CLOSE] to close the deck.
- 2 Press [DOLBY NR] to select Dolby NR on ("NR" appears) or off.**
- 3 Press [REV MODE] to select the reverse mode.**
Every time the button is pressed:
 ↔ : One side is played.
 ↔ : Both sides are played.
 ⇄ : Both sides are played eight times each.
- 4 Press [◀] or [▶].**
Play begins and the indicator changes to green.
 ▶ : to play the forward side (facing up).
 ◀ : to play the reverse side (facing down).
- 5 Adjust the volume.**

To stop the tape
Press [■].

A Resetting the tape counter

Press [RESET].

Cassette tape selection and care

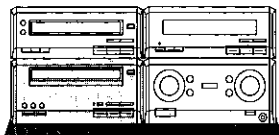
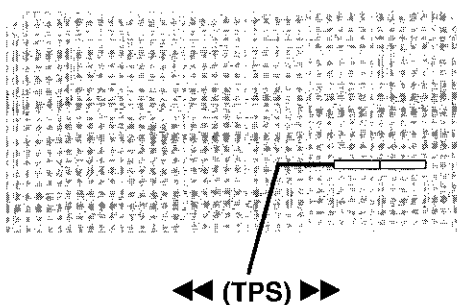
The unit can correctly play the following types. It identifies the type automatically.

Normal position/TYPE I	✓
High position/TYPE II	✓
Metal position/TYPE IV	✓

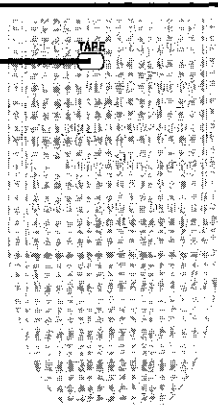
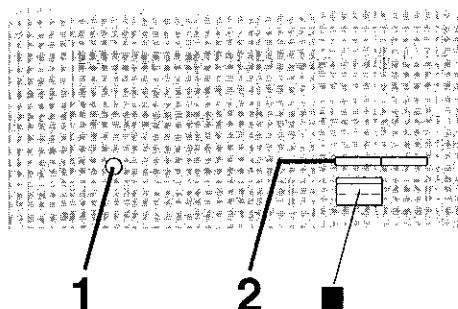
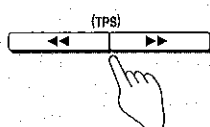
- Tapes exceeding 100 minutes are thin and can break or get caught in the mechanism.
- Tape slack can get caught up in the mechanism and should be taken up before the tape is played.
- Endless tapes can get caught up in the deck's moving parts if used incorrectly. Use tapes appropriate to this unit's auto-reverse mechanism.

Dolby noise reduction

Dolby NR reduces "hissing" when playing tapes. It increases the high frequency region when recording and then reduces it in playback. Use the same system during playback and recording. This unit has Dolby B NR which reduces noise to a third. Prerecorded cassettes and equipment marked "NR" use Dolby B NR.

**A****B**

TAPE

**C****1****2**

Cassette tapes

A

Fast-forwarding and rewinding

Press [**<< (TPS)**] or [**(TPS) >>**] while the tape is stopped.

Tape direction	Rewind	Fast-forward
▶	<<	>>
◀	>>	<<

B

One touch play

Remote control only

When a cassette is loaded and the unit is off, press [TAPE]. The unit comes on and starts play in the direction last selected with the volume fading in.

C

Tape program sensor (TPS)

TPS finds the beginning of a track and starts play from there. You can skip up to nine tracks.

- 1 Press [TPS SKIP] to select the number of tracks you want to skip.
- 2 Press [**<< (TPS)**] or [**(TPS) >>**] to select the direction.

Tape direction	Backward	Forward
▶	<<	>>
◀	>>	<<

Backward: The number of skips is displayed with a minus sign
Forward: The number of skips is displayed with a plus sign

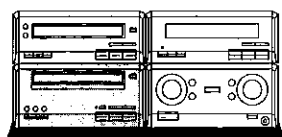
Pressing [**<< (TPS)**] or [**(TPS) >>**] during play takes you to the beginning of the current track or the next track, depending on tape direction.

To cancel

Press [■].

Note

- Stop the tape before changing the TPS direction.
- TPS may not operate correctly in the following situations:
If the interval between tracks is less than 4 seconds.
If there is noise between tracks.
If there are silent parts within tracks.



Before recording

Selection of tapes for recording

The unit automatically identifies the type of tape.

Normal position/TYPE I	✓
High position/TYPE II	✓
Metal position/TYPE IV	✓

A To display the tape counter while recording

Press [COUNTER].

The counter is displayed for about five seconds.

B Erasure prevention

The illustration shows how to remove the tabs to prevent recording. To record on the tape again, cover as shown, being careful not to cover the high position discrimination hole.

Volume and sound quality

Recordings are unaffected by changes to volume and sound quality.

C Preparatory steps

Do these steps before each recording.

Wind up the leader tape so recording can begin immediately.

1 Press [▲ OPEN/CLOSE], insert the cassette with the tape facing in.

Make sure the cassette is fully inserted and press [▲ OPEN/CLOSE] to close the deck.

2 Press [DOLBY NR] to select Dolby NR on ("DOLBY NR" appears) or off.

(→ "Dolby noise reduction" page 31)

3 Press [REV MODE] to select the reverse mode.

Each time you press the button:

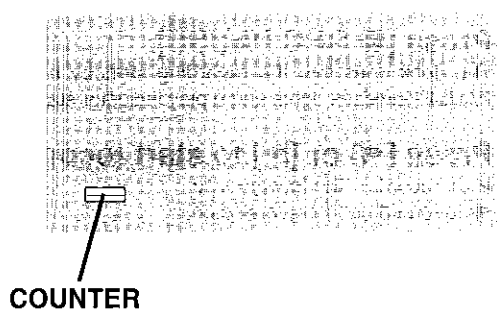
↔ : One side only records.

↔ and ↔ : Both sides record (forward → reverse). "↔" automatically changes to "↔" when [● REC PAUSE] is pressed.

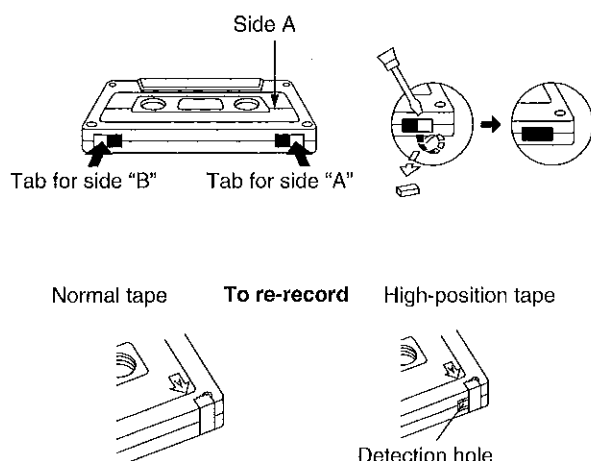
Erasing recordings

1. Turn [INPUT SELECTOR] to select "TAPE".
2. Press [DOLBY NR] so that "DOLBY NR" goes off.
3. Select the reverse mode.
4. Press [● REC PAUSE].
5. Press [◀] or [▶].

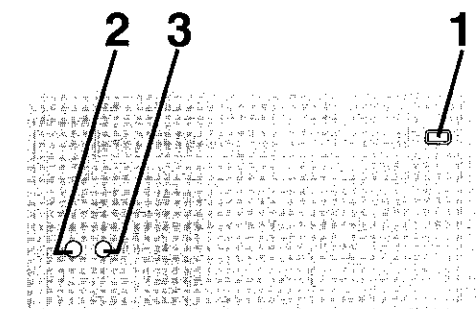
A



B



C



1



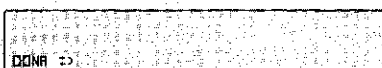
2

DOLBY NR



3

REV MODE



Recording the radio

Preparation: Do the preparatory steps (➔ page 33).

1 Tune to the required station.

(➔ page 29 or 30)

2 Press [● REC PAUSE].

The deck goes into the recording standby mode, [● REC PAUSE] indicator lights and a play indicator starts flashing.

3 Press [◀] or [▶] to start recording.

▶: to record on the forward side

◀: to record on the reverse side

To stop recording

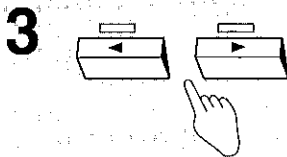
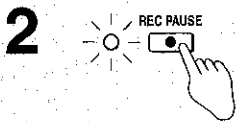
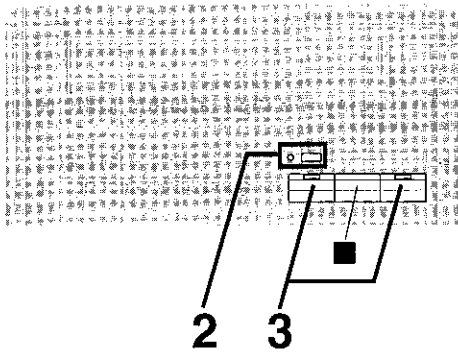
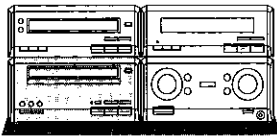
Press [■].

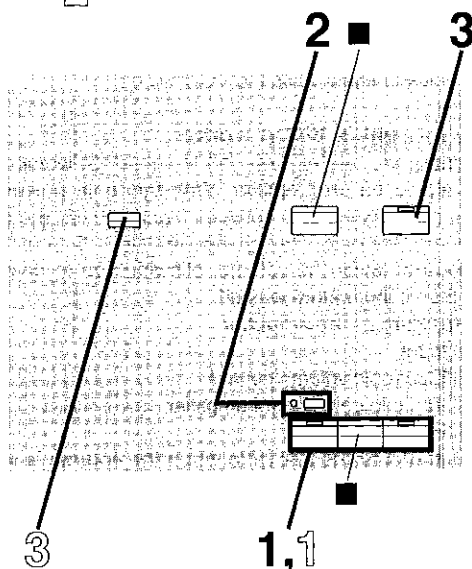
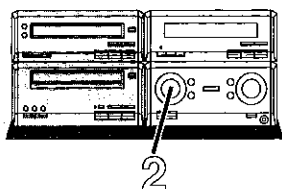
To temporarily stop recording

Press [● REC PAUSE].

The deck goes into recording standby mode.

Press the [◀] or [▶] button with the flashing indicator to resume recording.





Recording discs

Preparation: Do the preparatory steps (➔ page 33).
Insert a disc (➔ page 16).

A Normal recording

1 Press [◀] or [▶] then [■] to set the tape direction.

▶: to record on the forward side
◀: to record on the reverse side

2 Press [● REC PAUSE].

The deck goes into the recording standby mode, [● REC PAUSE] indicator lights and the play indicator starts flashing.

3 Press [▶] on the DVD player.

Recording starts automatically.

Four seconds after the disc finishes, the deck goes into the recording standby mode.

The deck may not go into recording standby mode if the disc shows a menu after play.

To stop recording

EITHER

Press [■] on the DVD player.

The deck goes into the recording standby mode four seconds later.

OR

Press [■] on the deck.

Recording stops immediately but the disc continues to play.

To record programmed tracks

Program tracks before step 2 (➔ steps 1–3, page 25).

B CD editing

This function makes it easier for you to record from a CD.

1 Press [◀] or [▶] and then [■] to set the tape direction.

▶: to record on the forward side
◀: to record on the reverse side

When you select "▶", set the reverse mode to "↔". Now, if a track is cut off at the end of the forward side, it is re-recorded on the reverse side.

• At the end of the reverse side, recording stops and the current track will be interrupted.

2 Turn [INPUT SELECTOR] to select DVD mode.

Wait for the unit to finish reading the disc.

3 Press [EDIT].

Recording starts and "CD EDIT" scrolls across the display.

After recording finishes

The cassette deck automatically stops.

To stop editing

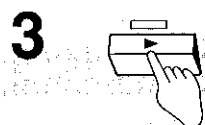
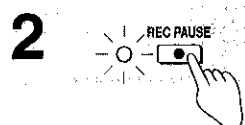
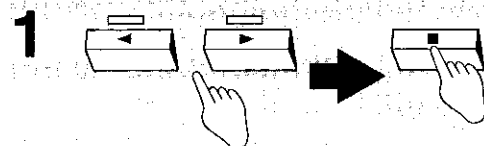
Press [■] on the deck or the DVD player.

"EDIT OUT" is displayed and both sections stop.

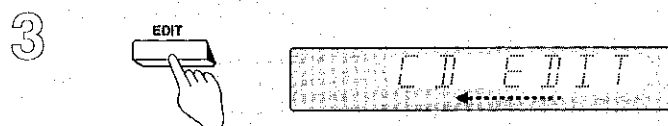
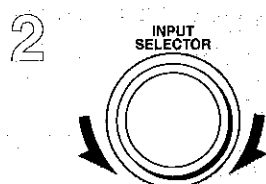
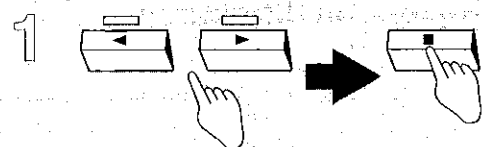
Editing programmed tracks

Program the tracks (➔ steps 1–3, page 25) before step 3.

A



B



Changing the sound quality

A The VGCA circuit

VGCA: Variable Gain Control Amplifier

You can achieve a clearer sound by using this feature.

Turning the VGCA on and off

Press [-VGCA -CINEMA BASS].

The indicator lights while the VGCA is on.

How this unit's VGCA works

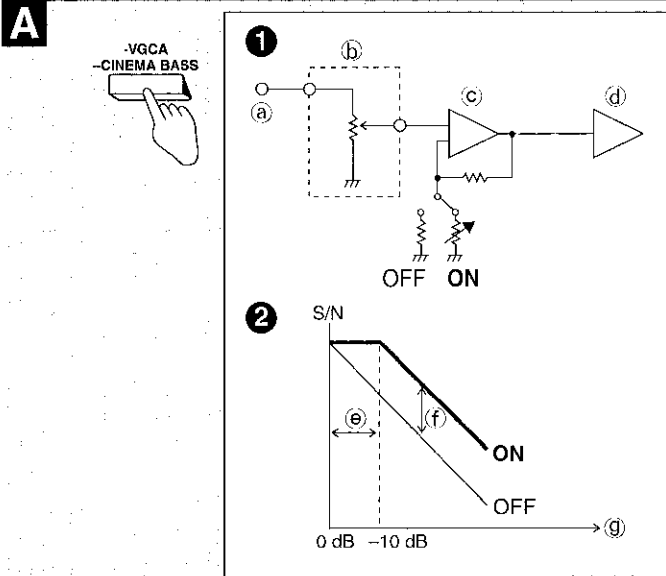
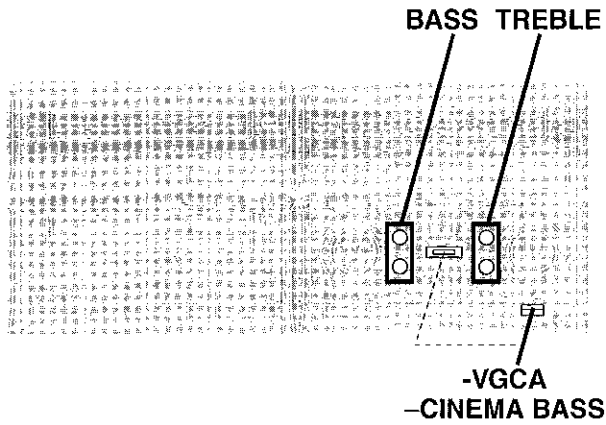
Generally, the rate of noise (N) to sound (S) worsens as you lower the volume on an amplifier. With this unit, however, the VGCA circuit changes the gain between 0 and -10 dB, thereby maintaining the same S/N ratio. This change in gain is then maintained as you continue to lower the volume, allowing you to enjoy a better S/N ratio than if the feature was off.

1 Structure of the amplifier

- (a) Input
- (b) Electronic volume control
- (c) Variable gain control amplifier
- (d) Power amplifier

2 Changes to the S/N ratio when the volume is lowered (simplified)

- (e) Gain variation range
- (f) Difference between the S/N ratio when the feature is on and off
- (g) Reduction in volume



B To adjust the tone quality

1 Press [-VGCA -CINEMA BASS] to turn the VGCA off.

2 Press [BASS (▲ or ▼)] (bass) or [TREBLE (▲ or ▼)] (treble).

Note

You cannot adjust the tone while CINEMA BASS or the VGCA is on.

C Maximizing the bass - CINEMA BASS

Optimize the tone for movie viewing.

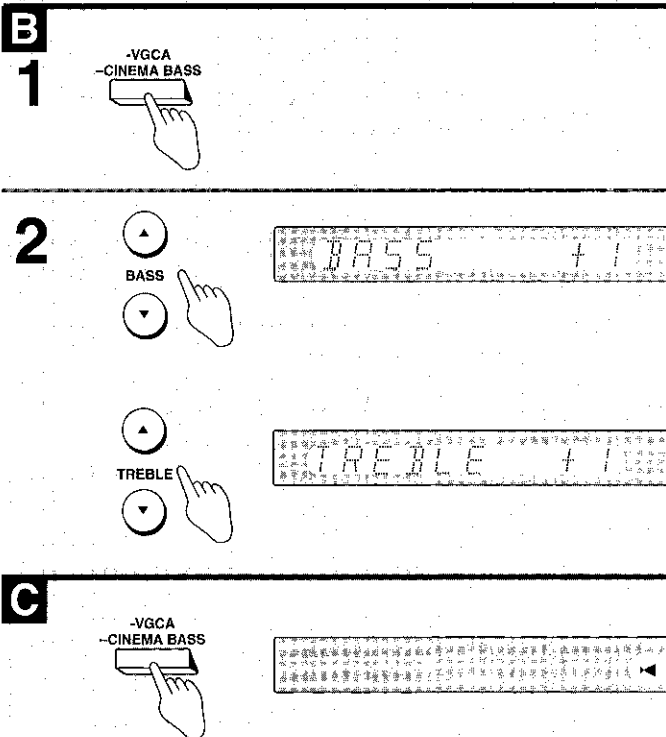
Press and hold [-VGCA -CINEMA BASS] until "◀" appears on the display.

The VGCA turns off if it was on.

To cancel

Press and hold [-VGCA -CINEMA BASS].

The feature is also canceled when you press [-VGCA -CINEMA BASS] to turn the VGCA on.



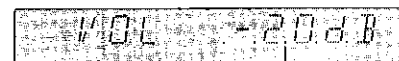
Convenient functions

A To adjust left-right balance

Press [SHIFT] + [BALANCE (L) or (R)] to adjust the sound balance.

For your reference

The following display appears when you adjust the volume to indicate that you have adjusted the balance to the left or right.



Dot display

B Muting the volume

Press [MUTING].

Volume is reduced to minimum.

To cancel

Press [MUTING] again. ("MUTING OFF" lights up.)

To cancel from the unit, turn [VOLUME] to minimum (- dB), then raise it to the required level.

When the unit is turned off, the muting operation will be automatically canceled.

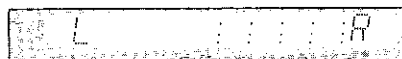
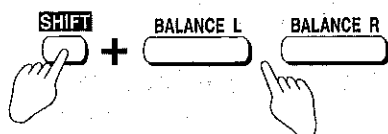
Using headphones (not included)

Reduce the volume before connection.

Avoid listening for prolonged periods of time to prevent hearing damage.

Plug type: 3.5 mm stereo.

A



B



Using the timers

The play timer

This timer starts play of the selected source at the selected time. The example shows settings for preset radio channel 3 to play between 6:30 and 7:40, at -40 dB.

Preparation: Turn the unit on, set the time (➡ page 14), preset radio stations if you want the timer to start playing the radio (➡ page 30).

- 1 Press [CLOCK/TIMER] to select "⏻ PLAY".

CLOCK ➡ ⏻ PLAY ➡ ⏻ REC ➡ Original display

- 2 Press [SET] within 10 seconds.

- 2 1 Press [TUNE/TIME ADJUST (V or ^)] to select the condition required and 2 press [SET].

Repeat steps 1 and 2 to complete items 1 to 4.

- 1 Select the start time.

- 2 Select the finish time.

- 3 Select the source.

TUNER – DVD – TAPE

If you select TUNER

Select a preset channel.

- 4 Select the volume.

The timer is now on standby. The display shows each condition again for 3 seconds each then restores the original display.

Confirm the [⏻ PLAY/⏻ REC] indicator lights and that "⏻ PLAY" lights on the display.

- 3 Press [⏻/⏻] to turn the unit off.

The timer starts at the set time with the volume increasing gradually to the set level.

To cancel the timer

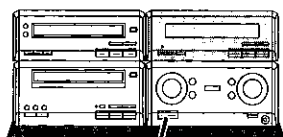
Turn the unit on.

Press [⏻ PLAY/⏻ REC] so "⏻ PLAY" goes out.

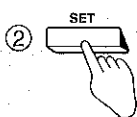
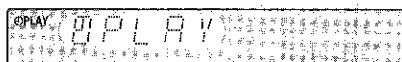
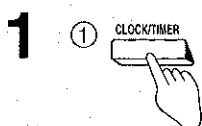
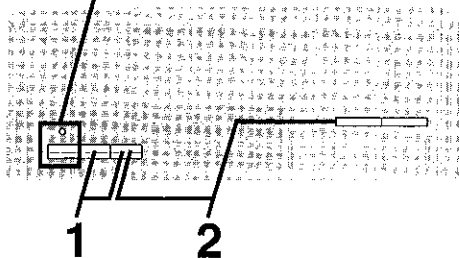
Each time you press the button:

⏻ PLAY ➡ ⏻ REC ➡ ⏻ PLAY ⏻ REC ➡ off (no display)

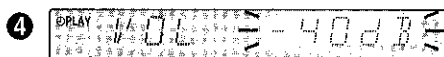
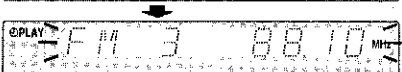
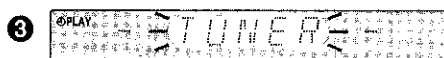
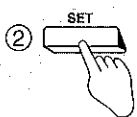
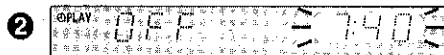
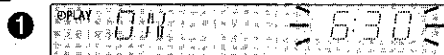
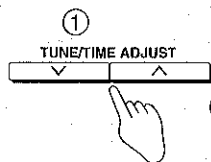
The timer function will be canceled, but the settings stay in the memory.



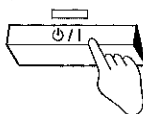
3
⏻ PLAY/⏻ REC



2



3



Using the timers

The record timer

This timer records the radio at the set time.

The example shows settings for recording radio channel 3 from 18:30 to 19:30.

Preparation: Turn the unit on, set the time (➔ page 14), preset radio stations (➔ page 30).

- 1 ① Press [CLOCK/TIMER] to select "⌚ REC".

CLOCK → ⌚ PLAY → ⌚ REC → Original display
↑

- ② Press [SET] within 10 seconds.

- 2 ① Press [TUNE/TIME ADJUST (∇ or ∆)] to select the condition required and
- ② press [SET].

Repeat steps ① and ② to complete items ① to ③.

- ① Select the start time.

- ② Select the finish time.

- ③ Select the preset channel.

The timer is now on standby. The display shows each condition again for 3 seconds each then restores the original display.

Confirm the [⌚ PLAY/⌚ REC] indicator lights and that "⌚ REC" lights on the display.

- 3 Press [⏻/⏮] to turn the unit off.

Recording starts 30 seconds before the set time with the volume muted during the set time.

To cancel the timer

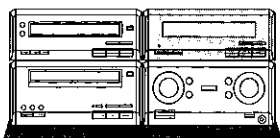
Turn the unit on.

Press [⌚ PLAY/⌚ REC] so "⌚ REC" goes out.

Each time you press the button:

⌚ PLAY → ⌚ REC → ⌚ PLAY ⌚ REC → off (no display)
↑

The timer function will be canceled, but the settings stay in the memory.

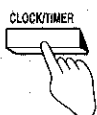


⏸ PLAY/⏹ REC



CLOCK/TIMER

A

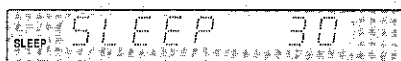
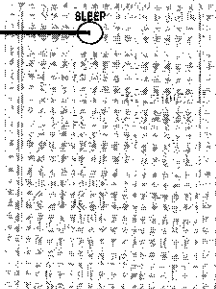


B



C

SLEEP



Using the timers

The play and record timers

Checking the timers **A**

Press [CLOCK/TIMER] to select "⏸ PLAY" (or "⏹ REC").

The timer conditions are shown in the following order:

Start time → finish time → source → volume ("⏸ PLAY" only)

The timers can be checked even if the unit is off.

Playing the unit after the timers are set

The unit can be used after the timers are set. Make sure the unit is off before the set start time.

Turning the timers on and off **B**

The timers come on at the set time if the [⏸ PLAY/⏹ REC] indicator is on. Turn them on and off by pressing [⏸ PLAY/⏹ REC] (→ pages 38 and 39).

Note

If the unit is turned off while a timer is functioning, the finish time setting will not be activated.

You can change the finish time for a timer while it is functioning by following the same steps for setting the timer.

C The sleep timer

Remote control only

This timer turns the unit off after a set time.

While playing a source

Press [SLEEP] to select the time (minutes).

Each time you press the button:

SLEEP 30 → SLEEP 60 → SLEEP 90
SLEEP OFF ← SLEEP 120

To cancel the sleep timer

Press [SLEEP] to select "SLEEP OFF".

"SLEEP" goes out.

To confirm the remaining time

(While the timer is functioning)

Press [SLEEP].

The remaining time is shown for about five seconds.

To change the setting

Press [SLEEP] to display the remaining time, then press again to select the required time.

Note

The sleep timer is canceled if CD editing is started.

Using the timers together

Any of the timers can be used together, but ensure the unit is off before the start time for the record and play timers.

Settings

Changing the settings

You can decide how to play discs before you start play. Refer to the chart on the following pages and use the operations described below to change the settings.

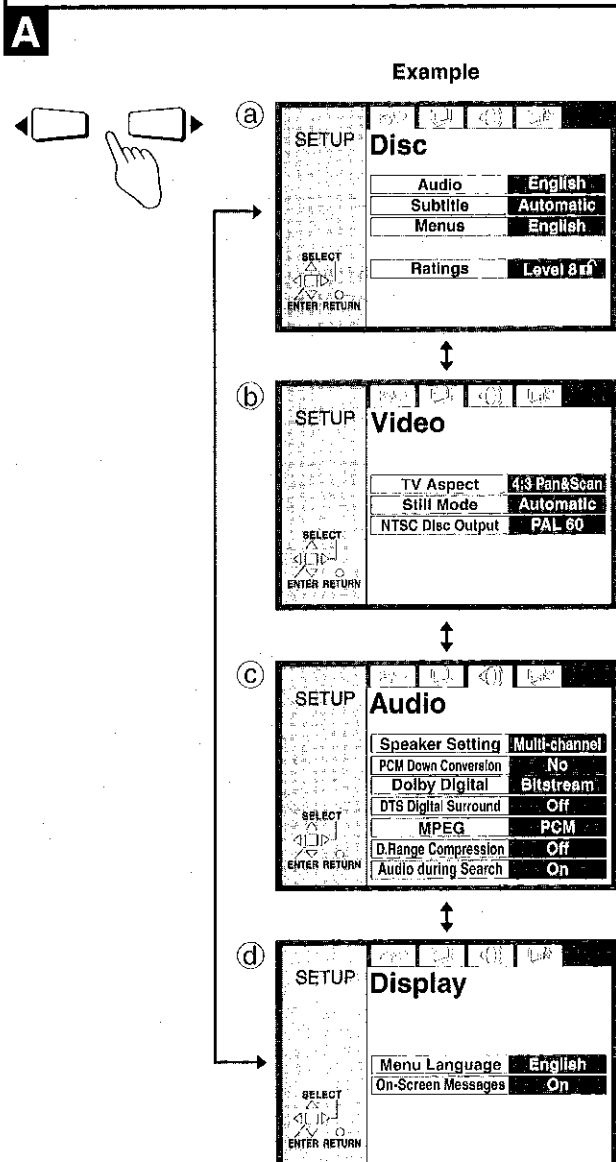
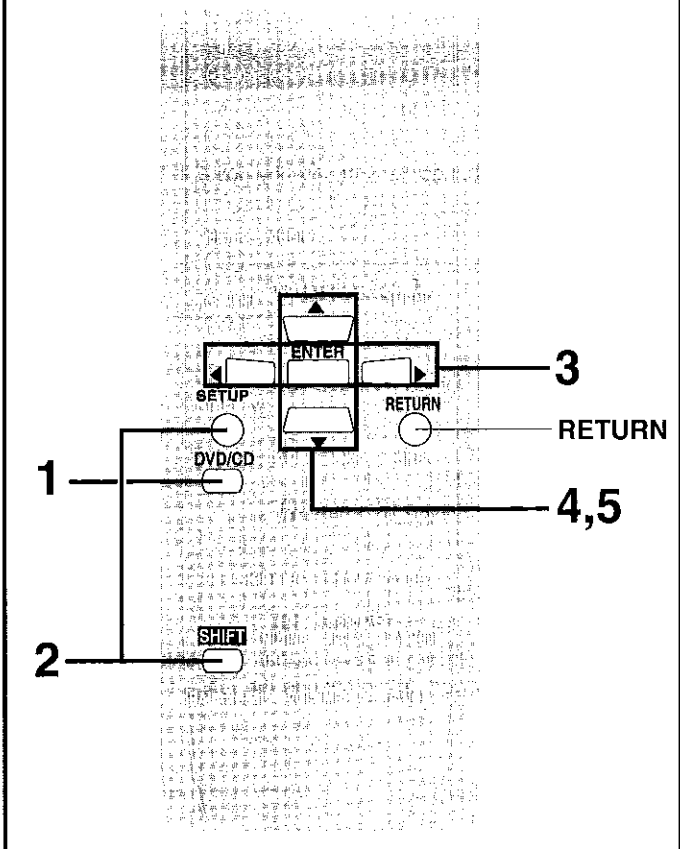
Preparation: Turn the television on and switch its input mode to suit the type of connection you have made (eg., VIDEO 1).

Basic operations

- 1 Press [DVD/CD].
- 2 Press [SHIFT] + [SETUP].
- 3 Press the cursor buttons (◀ or ▶) to select the menu's tab. (▲)
The screen changes to display the menu.
 - Disc menu (a) 
 - Video menu (b) 
 - Audio menu (c) 
 - Display menu (d) 
- 4 Press the cursor buttons (▲ or ▼) to select the item and press [ENTER].
- 5 Press the cursor buttons (▲ or ▼) to select the option and press [ENTER].

To return to the previous screen
Press [RETURN].

To clear the setup screen
Press [RETURN] until the setup screen disappears.



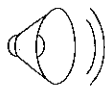
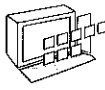
Summary of settings

This chart shows the settings for this unit.

Underlined items are the factory settings.

The menu and on-screen message language has been factory preset to English. You can change the language by going to "Menu language" in Display and selecting the preferred language.

See page 41 for details on menu operation.

Menu	Items		Options	
Disc 	Audio		<u>English</u> French German Italian	Spanish Original Other **** (→ page 48)
	Subtitle		<u>Automatic</u> English French German	Italian Spanish Other **** (→ page 48)
	Menus		<u>English</u> French German	Italian Spanish Other **** (→ page 48)
	Ratings		Level 8 (All DVDs can be played) to Level 0 (Play of all DVDs is prohibited) You must also set a password if you change the rating to any level other than "8".	
Video 	TV Aspect		<u>4:3 Pan & Scan</u> 4:3 Letterbox 16:9	
	Still Mode		<u>Automatic</u> Field Frame	
	NTSC Disc Output		<u>PAL 60</u> NTSC	
Audio 	Speaker Setting	Speaker mode (United Kingdom only)	Center speaker: Large/Small/ <u>No</u> Surround speaker: Large/Small/ <u>No</u>	
		Delay time	Center speaker: <u>0 ms</u> /1.3 ms/2.6 ms/3.9 ms/5.3 ms Surround speaker: <u>0 ms</u> /5.3 ms/10.6 ms/15.9 ms	
		Channel balance	Center speaker/Surround speaker/Subwoofer: <u>0</u> to ± 6 dB	
	PCM Down Conversion		<u>No</u> Yes	
	Dolby Digital		<u>Bitstream</u> PCM	
	DTS Digital Surround		<u>Off</u> Bitstream	
	MPEG		<u>PCM</u> Bitstream	
	D. Range Compression		<u>Off</u> On	
	Audio during Search		<u>On</u> Off	
Display 	Menu Language		<u>English</u> Français Deutsch	Italiano Español
	On-screen Messages		<u>On</u> Off	

Changes to the settings remain intact after the unit is turned off.
Do the setting procedures again to restore to the original settings.

Select the soundtrack language. Some discs are designed to start in a certain language despite any changes you make here.

Select the subtitle language. Some discs are designed to start in a certain language despite any changes you make here.

Select the language for the title menu and other menus shown by the disc.

Set a ratings level for playing DVD (➡ page 45). The DVDs must have ratings levels recorded on them for this feature to be effective.
Level 8: All DVD can be played.
Level 7 to level 1: Prohibits play of DVD with ratings recorded on them.
Level 0: Prohibits play of all DVD.

Change to suit your television (➡ page 15).

Select a picture type for when the picture is paused (➡ page 49) .

Field: Field stills are shown which are less blurred.

Frame: Frame stills are shown which are sharper.

Select whether PAL 60 signals or NTSC signals will be output during playback of NTSC discs.

Set the presence and size of your center and surround speakers when setting up a 5.1-channel surround system (➡ page 44).

Set the delay time for your center and surround speakers (➡ page 45).

Use the test signal to adjust the volume balance of your speakers (➡ page 44).

Choose whether or not to convert the 96 kHz signals contained on DVD to 48 kHz/16 bit.

Select the types of digital signals to be output from the DIGITAL OPTICAL OUT terminal.

To record to MDs → PCM

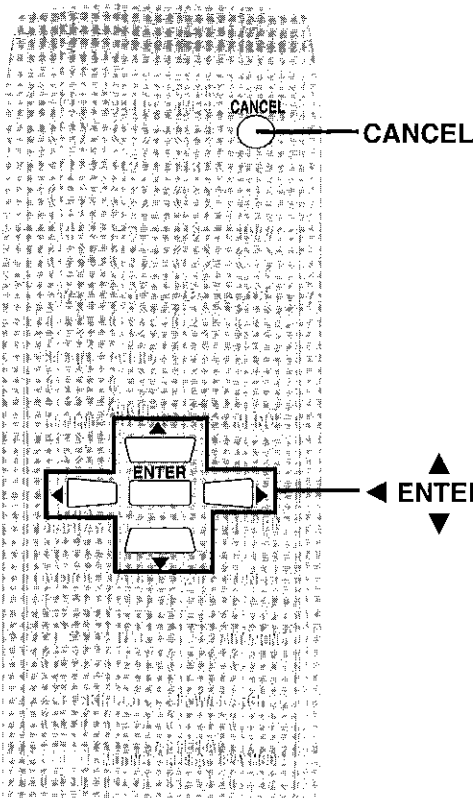
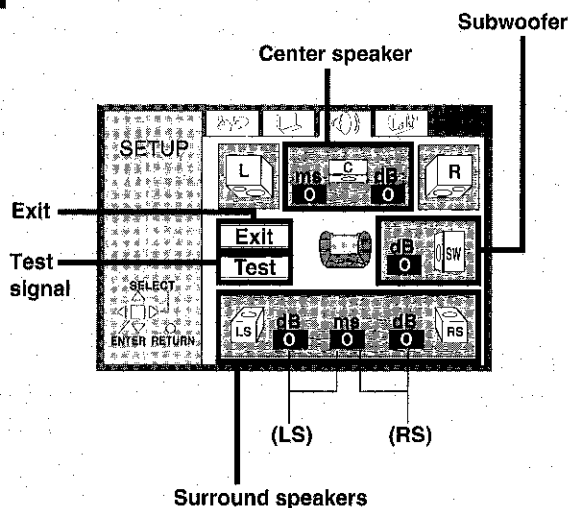
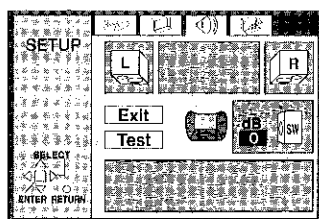
When outputting to a decoder → Bitstream

Select whether to have dynamic range compression on or off during play of Dolby Digital software. Dynamic range is the difference between the loudest sound and the softest sound. By compressing this range, you can listen at low volume but still enjoy clear dialogue.

Select whether to have sound on or off during the first level of fast forward.

Select the language used for menus and messages the unit displays on the television (including these menus).

Choose whether to show the on-screen messages that appear on the television when you perform operations.

**A****B****United Kingdom only**

Example: Left surround speaker (LS)

Icon		
Yes (large)	Yes (small)	No

A Speaker settings

Refer to "Changing the settings" (➡ page 41).

For the United Kingdom

Do these settings if you connect center and surround speakers.

For others

You can enjoy multi-channel audio from DVDs without doing these settings. Change them to improve the effect or when you connect a subwoofer.

Speaker mode (United Kingdom only)

Set the presence and size of the speakers you have connected.

The sound for a speaker channel will not be output if you set the presence incorrectly.

You will not get the most from your speakers if you set the size incorrectly.

B shows the default screen for the United Kingdom.Use illustration **A** as a guide to select the center and surround speakers.

1 Press the cursor buttons (◀▲▼▶) to select the speaker and press [ENTER].

2 Press the cursor buttons (▲ or ▼) to change the setting.

The speaker icon appears.

3 Press [ENTER].

This confirms the size of the speaker, small or large, and the icons for speaker balance ("dB") and delay time ("ms") appear.

Note

- Set to "small" if you connect the recommended optional center and surround speaker system (SB-PT96).
- You cannot change the size and presence of the front speakers (L and R) or the subwoofer (SW).

Channel balance

Adjust the balance of the center and surround speakers using the test signal so that they are the same apparent level as the front speakers when you are sitting where you would normally enjoy a source. First adjust the unit's volume to the level normally used.

Icon	Speakers
	Center Surround (LS) Surround (RS) Subwoofer

1 Press the cursor buttons (◀▲▼▶) to select "Test" and press [ENTER].

A test signal is output in the following order:

L → C → R → RS → LS

↑

2 Press the cursor buttons (▲ or ▼) to adjust the level while the speaker is outputting the signal.

3 Press [ENTER] to stop the test signal.

To adjust subwoofer output

After playing a source to determine the approximate level, stop play and return to this screen to adjust the level to your taste.

When you have finished changing the settings

Press the cursor buttons to select "Exit" and press [ENTER].

Delay time

Changing the delay time allows you to make up for differences in distance between the speakers and the listening position.

Icon	Speakers
	Center Surround (LS/RS)

- 1 Press the cursor buttons (◀▲▼▶) to select the delay time box you want to adjust and press [ENTER].
- 2 Press the cursor buttons (▲ or ▼) to change the setting.
(Refer to "Calculating delay time" below)
- 3 Press [ENTER].

Calculating delay time

Center speaker

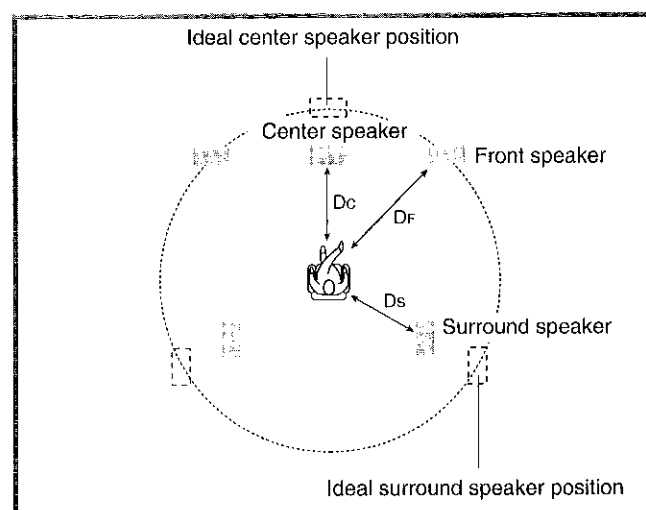
If D_F is less than or equal to D_C , then set the delay time to 0ms.
If D_F is greater than D_C , then set the delay time as follows.

Difference between D_F and D_C	Delay time
50 cm	1.3 ms
100 cm	2.6 ms
150 cm	3.9 ms
200 cm	5.3 ms

Surround speakers

If D_F is less than or equal to D_S , then set the delay time to 0ms.
If D_F is greater than D_S , then set the delay time as follows.

Difference between D_F and D_S	Delay time
200 cm	5.3 ms
400 cm	10.6 ms
600 cm	15.9 ms

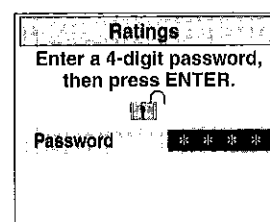


Ratings

To set a ratings level

Go to "Ratings", select a level between 7 and 0, press [ENTER].

- 1 Press the numbered buttons on the remote control to enter a four-digit password.



- 2 Press [ENTER] twice.

Note

Do not forget your password.

Now, when you insert a DVD-Video that exceeds the ratings limit you set, a message appears on the television.
Follow the on-screen instructions.

To change the setting

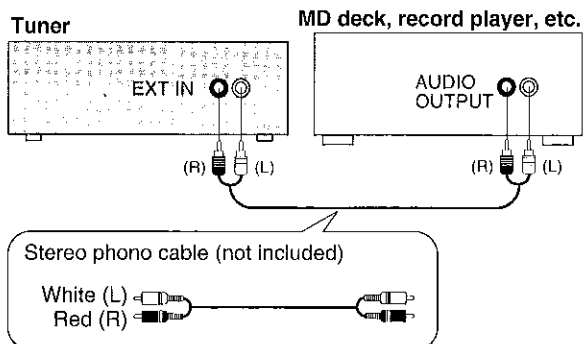
After you have set the level to a level between 7 and 0, use the following operation to change the setting.

- 1 Select "Ratings" and press [ENTER].
- 2 Enter your four-digit password with the numbered buttons and press [ENTER].
- 3 Press the cursor buttons (▲ or ▼) to select the item you want to change and press [ENTER].
 - Unlock Player (the rating level returns to 8)
 - Change Password
 - Change Level
 - Temporary Unlock

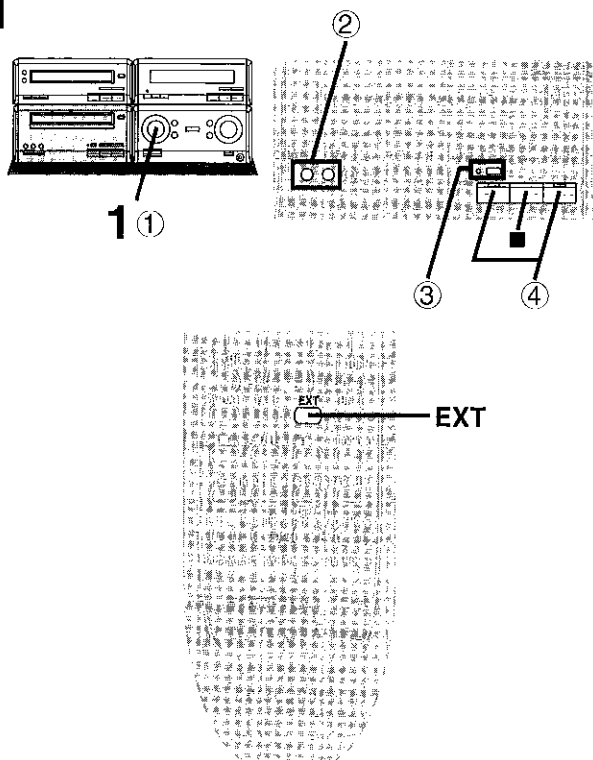
Follow the instructions on the screen to make changes.

If you enter the wrong number while entering your password
Press [CANCEL].

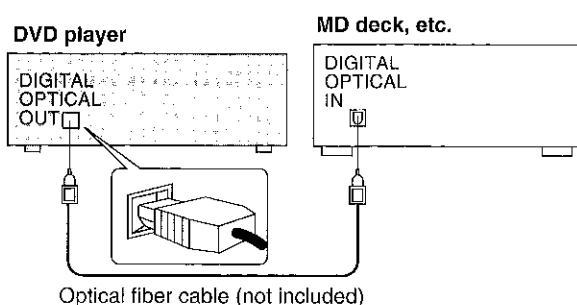
A



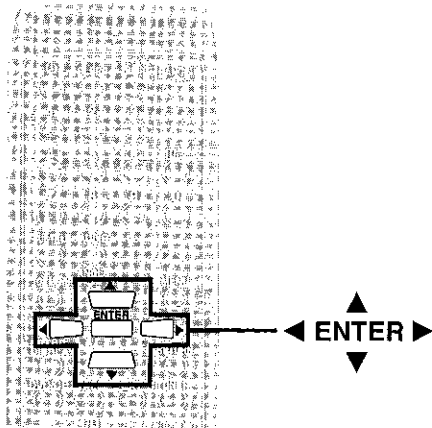
B



C



D



Using other equipment

- Turn off the power to all units before making connections.
 - Refer to the manual of the other unit for details.
- (Cables and equipment not included.)

A Analogue connection

Connect other equipment to the EXT IN terminals to output sound through this unit's speakers or to record onto the cassette deck. You will need a phono equalizer if you connect a record player.

B Playing an external source

1 Turn [INPUT SELECTOR] to select EXT mode.

Each time you turn [INPUT SELECTOR]:
TUNER – DVD – TAPE – EXT

On the remote control

Press [EXT].

2 Operate the unit.

See the unit's manual for details on operation and connection.

B Recording an external source to this unit's tape deck

- 1 Turn [INPUT SELECTOR] to select EXT mode.
- 2 Select Dolby NR and reverse mode.
- 3 Press [● REC PAUSE].
- 4 Press [◀] or [▶] to start recording.
- 5 Start the source to be recorded.

See the unit's manual for details on operation and connection.

To stop recording
Press [■] on the deck.

C Digital connection

Use an optical fiber cable to connect other digital recording equipment to DIGITAL OPTICAL OUT on the back of the DVD player. This connection enables you to make digital recordings.

Change the digital output settings after making this connection (➡ page 47).

Connecting an optical fiber cable

The DIGITAL OPTICAL OUT terminal has a dust cover. The cover opens when you plug in the cable.

Recording discs to other digital equipment

Start recording on the external unit and start playing the disc to be recorded.

Note

Some discs cannot be recorded digitally.

D Digital output settings

Change these settings if you have connected this unit to another piece of equipment through DIGITAL OPTICAL OUT.

- 1 **Go to the Audio menu.**
(→ page 41–42)
- 2 **Press the cursor buttons (▲ or ▼) to select the item and press [ENTER].**
- 3 **Press the cursor buttons (▲ or ▼) to select the option and press [ENTER].**

Recommended digital audio output settings

Equipment connected	Recommended setting			
	PCM Down Conversion*	Dolby Digital	DTS Digital Surround	MPEG
None	No	<u>Bitstream</u>	Off	<u>PCM</u>
Digital (no decoder) (MD deck, etc.)	Yes	PCM	Off	<u>PCM</u>
Dolby Digital decoder	Yes	<u>Bitstream</u>	Off	<u>PCM</u>
DTS Digital Surround decoder	Yes	PCM	Bitstream	<u>PCM</u>
Dolby Digital/ DTS Digital Surround decoder	Yes	<u>Bitstream</u>	Bitstream	<u>PCM</u>
Dolby Digital/ DTS Digital Surround/ MPEG audio decoder	Yes	<u>Bitstream</u>	Bitstream	Bitstream

Underlined items are factory preset.

* PCM Down Conversion

1. **No (factory preset)**
 - 96 kHz LPCM signal are not output.
 - 48 kHz signal are output as 48 kHz/16 bit signals.
 - Signals from DVDs without copyright protection may be output as they are.
2. **Yes**
 - 96-kHz and 48-kHz signals are output as 48-kHz/16-bit signals when output is digital and 48-kHz signals when output is analogue.
(This is for copyright protection.)

Caution for the digital optical output terminal:

Ensure Dolby Digital, DTS and MPEG are set to "PCM" or "Off" if you connect this unit to a digital amplifier without a decoder. If the signals are output as bitstream, "noise" will be output, which can harm your ears and speakers.

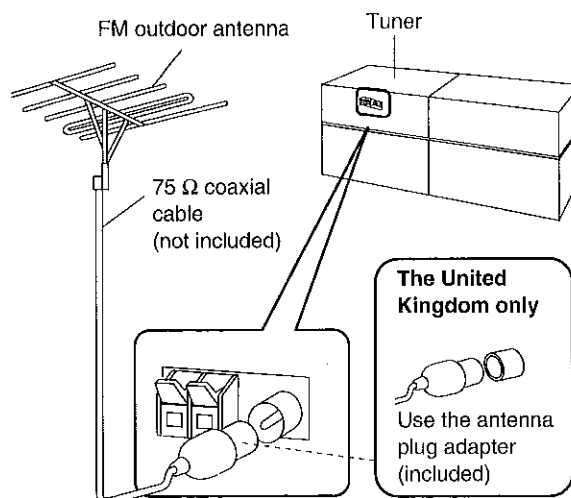
Optional antenna connections

Use outdoor antennas if radio reception is poor.

FM outdoor antenna

Note

- Disconnect the FM indoor antenna.
- The antenna should be installed by a competent technician.

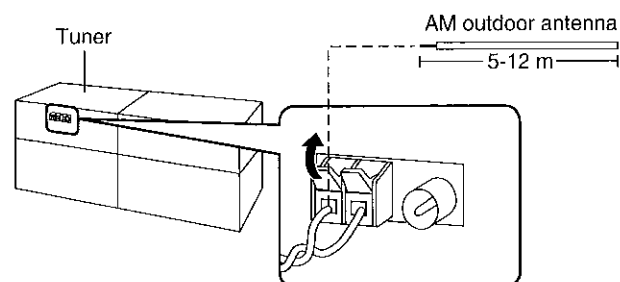


AM outdoor antenna

Run a piece of vinyl wire horizontally across a window or other convenient location.

Note

- Leave the loop antenna connected.
- Disconnect the antenna when the unit is not in use. Do not use the antenna during an electrical storm.



How different kinds of software appear on your television

DVD software is recorded in a variety of picture formats, and how they appear on your TV depends on the software, the kind of TV you have, and the picture mode your TV is set to.

- Letterbox refers to pictures where black bands appear at the top and bottom.
- Pan and scan refers to pictures where part of the picture is cut off so it fills the whole screen.

Television and picture mode Software format	4:3	16:9 full mode	16:9 zoom mode	16:9 auto mode
Wide screen, pan and scan 	Edges cut off 	Full screen 	Top and bottom cut off 	Full screen 
Wide screen, non-pan and scan 	Letterbox 			
Regular (4:3) 	Full screen 	Screen stretched horizontally 	Top and bottom cut off 	Full screen with black bands on the left and right 
Regular (4:3) letterbox 	Letterbox 	Letterbox with screen stretched horizontally 	Full screen 	Letterbox with extremities of picture stretched 

The names given to the television picture modes depend on the maker of your television. There may also be slight differences in how the pictures appear on the screen. Refer to your television's operating instructions for details.

Language code list

6565: Afar	6984: Estonian	7565: Georgian	7876: Dutch	8469: Telugu
6566: Abkhazian	6985: Basque	7575: Kazakh	7879: Norwegian	8471: Tajik
6570: Afrikaans	7065: Persian	7576: Greenlandic	7982: Oriya	8472: Thai
6577: Ameharic	7073: Finnish	7577: Cambodian	8065: Punjabi	8473: Tigrinya
6582: Arabic	7074: Fiji	7578: Kannada	8076: Polish	8475: Turkmen
6583: Assamese	7079: Faroese	7579: Korean	8083: Pashto, Pushto	8476: Tagalog
6588: Aymara	7082: French	7583: Kashmiri	8084: Portuguese	8479: Tonga
6590: Azerbaijani	7089: Frisian	7585: Kurdish	8185: Quechua	8482: Turkish
6665: Bashkir	7165: Irish	7589: Kirghiz	8277: Rhaeto- Romance	8484: Tatar
6669: Byelorussian	7168: Scots Gaelic	7665: Latin	8279: Romanian	8487: Twi
6671: Bulgarian	7176: Galician	7678: Lingala	8285: Russian	8575: Ukrainian
6672: Bihari	7178: Guarani	7679: Laotian	8365: Sanskrit	8582: Urdu
6678: Bengali; Bangla	7185: Gujarati	7684: Lithuanian	8368: Sindhi	8590: Uzbek
6679: Tibetan	7265: Hausa	7686: Latvian, Lettish	8372: Serbo- Croatian	8673: Vietnamese
6682: Breton	7273: Hindi	7771: Malagasy	8373: Singhalese	8679: Volapük
6765: Catalan	7282: Croatian	7773: Maori	8375: Slovak	8779: Wolof
6779: Corsican	7285: Hungarian	7775: Macedonian	8376: Slovenian	8872: Xhosa
6783: Czech	7289: Armenian	7776: Malayalam	8377: Samoan	8979: Yoruba
6789: Welsh	7365: Interlingua	7778: Mongolian	8378: Shona	9072: Chinese
6865: Danish	7378: Indonesian	7779: Moldavian	8379: Somali	9085: Zulu
6869: German	7383: Icelandic	7782: Marathi	8381: Albanian	
6890: Bhutani	7384: Italian	7783: Malay	8382: Serbian	
6976: Greek	7387: Hebrew	7784: Maltese	8385: Sundanese	
6978: English	7465: Japanese	7789: Burmese	8386: Swedish	
6979: Esperanto	7473: Yiddish	7865: Nauru	8387: Swahili	
6983: Spanish	7487: Javanese	7869: Nepali	8465: Tamil	

Video

Frame

Frames are the still pictures that go together to make a moving picture.

There are about thirty frames shown each second.

Field

One frame is made up of two fields.

A regular television shows these fields one after the other to create frames.

Frame still and field still

A still is shown when you pause a moving picture.

A frame still is made up of two alternating fields, so the picture may appear blurred, but overall quality is high.

A field still is not blurred, but it has only half the information of a frame still so picture quality is lower.

I/P/B

MPEG 2, the video compression standard adopted for use with DVD, codes frames using these three picture types.

I: Intra coded picture (I-picture)

This is the standard picture and is a complete picture in itself. This means it has the best picture quality and is the best to use when adjusting the picture.

P: Predictive coded picture (P-picture)

This picture is calculated based on past I and P-pictures.

B: Bidirectionally-predictive coded picture (B-picture)

This picture is calculated by comparing past and future I and P-pictures so it has the lowest volume of information.

Digital audio

Decoder

A decoder restores the coded audio signals on DVDs to normal. This is called decoding.

Dolby Digital

This is a method of coding digital signals developed by Dolby Laboratories. The signals are highly compressed, enabling a large amount of information to be recorded on one disc.

Sampling rate

This is the number of samples of sound taken per second during conversion to a digital signal. Sampling frequency is expressed in kilohertz (kHz). A high sampling frequency results in a sound close to the original when played back.

Linear PCM (pulse code modulation)

PCM is the usual digital method used for music CDs. DVDs have a greater volume so they use linear PCM, which has a higher sampling rate.

The compressed version of this is called Packed PCM.

Bitstream

This is the digital form of multiple channel audio data (e.g., 5.1 channel) before it is decoded into its various channels.

Other

Track

This is the smallest division on CDs and Video CDs and usually equates to a single song.

Chapter

This is the smallest division on DVDs and is roughly equivalent to a track.

Title

This is the largest division on DVDs.

Playback control (PBC)

This method of controlling disc play is included on version 2.0 Video CDs. You are able to interact with the disc through menus.

Manufactured under license from Dolby Laboratories.
"Dolby" and the double-D symbol are trademarks of Dolby Laboratories.

"DTS" and "DTS Digital Surround" are registered trademarks of Digital Theater Systems, Inc.

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

Troubleshooting guide

Before requesting service, make the below checks. If you can't fix the system as described below, or if something not listed here occurs, refer to the enclosed directory to locate an Authorized Service Center convenient to you or contact your dealer.

Reference pages are shown as black circled numbers ⑧.

Common problems

No power. No sound. No sound or distorted sound. Sounds unfixed, reversed or come from one speaker only. Noise is heard. The clock isn't displayed. Cannot adjust the bass or treble. The timers don't work. "ERROR" is displayed. "U70" is displayed "F61" is displayed.	Ensure the AC mains lead and flat cables are connected correctly. ⑧ ⑩ Turn the volume up. The speaker cords may be shorted. Turn the unit off, check and correct the connections and turn the unit on. ⑧ Check all connections. Check the speaker settings and digital audio output settings. ④④ ④7 Turn V.S.S. off. ②③ Check the speaker connections. ⑧ Separate the AC mains lead from the surround cable. The unit's other cords should also be kept away from AC mains leads, fluorescent lights and other appliances. If possible in your area, turn the AC mains lead's plug or connector over to reverse the lead's polarity. This can improve the sound quality. The clock is displayed for about five seconds when you press [CLOCK/TIMER]. ①④ You cannot adjust the tone while CINEMA BASS or VGCA is on. Turn them off. ③⑥ The play and record timers do not work if the unit is on. ③⑧ ③⑨ Ensure the indicator for the timer is on before you turn the unit off. Incorrect operation performed. Read the instructions and try again. Connect the flat cables firmly. If "U70" remains on the display, contact the dealer. There is a problem with the amplifier. Consult your dealer.
---	---

The DVD player

The display is wrong or play won't start. ERROR DISC NO PLAY No video or the size of the picture is unusual. Picture is disrupted. The unit doesn't respond when buttons are pressed. Play fails to start or stops soon after starting. You have forgotten your ratings password. Reset the unit to its original factory settings. No sound when playing DTS. "F" and a number is displayed.	The disc may be upside down. ①⑥ Wipe the disc. Replace the disc if it is scratched, warped, or nonstandard. ⑤ Condensation may have formed in the player due to a sudden change in temperature. Wait about an hour for it to clear and try again. Dirt on the disc may be preventing the unit from reading it. Clean the disc. You have inserted a disc that this unit cannot play. ⑤ The DVD-Video exceeds the ratings level you have set. Unlock the player. ④⑤ Check the settings and connections on the television. ①⑤ Depending on the type of television you have connected, the picture may be distorted in the following situations; 1) You switched the source from DVD to another source. 2) You pressed [▶] to start play of a disc while another source was selected. Some discs prohibit certain operations. This unit cannot play discs other than those specified. Clean the disc if it is dirty. ⑤ Ensure the label is facing up. ①⑥ Do the following to restore the unit to the condition it was in at the time of shipment. This clears the ratings settings. While pressing [■] on the DVD player, press and hold [≥10/-] on the remote control until the message "Initialized" disappears from the television screen. This unit cannot decode DTS signals. A problem has occurred. Turn the unit off then on again. Consult your dealer if the display isn't cleared.
--	---

Listening to the radio

Noise is heard. The stereo indicator flickers or doesn't light. Sound is distorted. A beat sound is heard. A low hum is heard during AM broadcasts. The correct AM frequency can't be tuned in.	Use an outdoor antenna. 47 Turn the TV off or separate it from the unit. Separate the antenna from other cables and leads. Change the frequency step. Hold [FM/AM] down for 10 seconds to change the step to 9 kHz.
--	--

The cassette deck

Poor quality sound. Recording is not possible.	Clean the heads. Check the Dolby NR setting. 51 If the erasure prevention tabs have been removed, cover the holes with adhesive tape. 53
---	--

During CD editing

"NO TAPE" is displayed. "CHANGE TAPE" is displayed.	Load a cassette. 51 If the erasure prevention tabs have been removed, cover the holes with adhesive tape. 53
--	---

The remote control

The remote control doesn't work.	Check the batteries are inserted correctly. 6 Replace the batteries if they are worn.
---	--

All components are required to service the system. If service is ever necessary, bring the entire system.

Maintenance

If the surfaces are dirty

To clean this unit, wipe with a soft, dry cloth.

- Never use alcohol, paint thinner or benzine to clean this unit.
- Before using chemically treated cloth, read the instructions that came with the cloth carefully.

For a cleaner crisper sound

Clean the heads regularly to assure good quality playback and recording. Use a cleaning tape (not included).

NORSK

ADVARSEL:

FOR Å REDUSERE FAREN FOR BRANN, STRØMSJOKK ELLER SKADER PÅ PRODUKTET, MÅ DETTE APPARATET IKKE UTSETTES FOR REGN, VANNSPRUT, VANDDRÅPER ELLER FUKTIGHET.

ADVARSEL!

DETTE PRODUKTET ANVENDER EN LASER.

BETJENING AV KONTROLLER, JUSTERINGER ELLER ANDRE INNGREP ENN DE SOM ER BESKREVENT I DENNE BRUKSANVISNING, KAN FØRE TIL FARLIG BESTRÅLING.

DEKSLER MÅ IKKE ÅPNES, OG FORSØK ALDRI Å REPARERE APPARATET PÅ EGENHÅND. ALT SERVICE OG REPARASJONSARBEID MÅ UTFØRES AV KVALIFISERT PERSONELL.

ADVARSEL!

APPARATET MÅ IKKE PLASSERES I EN BOKHYLLE, ET INNEBYGGET KABINETT ELLER ET ANNET LUKKET STED HVOR VENTILASJONSFORHOLDENE ER UTILSTREKKELIGE. SØRG FOR AT GARDINER ELLER LIGNENDE IKKE FORVERRER VENTILASJONSFORHOLDENE, SÅ RISIKO FOR ELEKTRISK SJOKK ELLER BRANN FORÅRSAKET AV OVERHETING UNNGÅS.

SUOMI

VAROITUS:

TULIPALO-, SÄHKÖISKUVAARAN TAI MUUN VAHINGON VÄHENTÄMISEKSI EI LAITETTA SAA ALTISTAA SATEELLE, ROISKEELLE, VESIPISAROILLE TAI KOSTEUEDELLE.

VAROITUS!

LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

VAROITUS!

ÄLÄ ASENNATA TAI LAITTA TÄTÄ LAITETTA KABINETTITYYPPISEEN KIRJAKAAPPIIN TAI MUUHUN SULJETTUUN TILAAN, JOTTA TUULETUS ONNISTUISI. VARMISTA, ETTÄ VERHO TAI MIKÄÄN MUU MATERIAALI EI HUONONNA TUULETUSTA, JOTTA VÄLTETTÄISIIN YLIKUUMENEMISESTA JOHTUVA SÄHKÖISKU- TAI TULIPALOVAARA.

Technical specifications

TUNER

■ Pre-amplifier section

Input sensitivity/impedance

EXT IN 300 mV/15 k Ω

■ Tuner section

FM frequency range 87.50–108.00 MHz
(0.05 MHz step)

FM antenna terminal 75 Ω (unbalanced)

AM frequency range
522–1629 kHz (9 kHz step)
520–1630 kHz (10 kHz step)

■ Timer section

Clock Quartz lock type

Function Play timer: everyday

Rec timer: everyday

Sleep timer: 120 min, 30 min intervals

■ General

Dimensions (W $\times$ H $\times$ D)

210 $\times$ 76.3 $\times$ 251 mm

Mass 1.1 kg

AMPLIFIER

■ Amplifier section (Stereo mode)

[Low frequency]

Power output

RMS 1 kHz, THD 10%, 6 Ω , both
channel driven 2 $\times$ 17 W

[High frequency]

Power output

RMS 10 kHz, THD 10%, 6 Ω , both
channel driven 2 $\times$ 8 W

■ Amplifier section (Multichannel mode)

[Low frequency]

Power output

DIN 1 kHz, THD 1%, 6 Ω , both
channel driven 2 $\times$ 8 W

RMS 1 kHz, THD 10%, 6 Ω , both
channel driven 2 $\times$ 10 W

Total harmonic distortion

Half power, 1 kHz, 6 Ω 0.07%

Load impedance

6 Ω

[High frequency]

Power output

DIN 10 kHz, THD 1%, 6 Ω , both
channel driven 2 $\times$ 6 W

RMS 10 kHz, THD 10%, 6 Ω , both
channel driven 2 $\times$ 8 W

Load impedance

6 Ω

[Surround, Center]

Power output

DIN 1 kHz, THD 1%, 8 Ω , both
channel driven 3 $\times$ 6 W

RMS 1 kHz, THD 10%, 8 Ω , both
channel driven 3 $\times$ 8 W

Load impedance

8 Ω

■ S/N

Rated power, 2 V input, VGCA ON 98 dB

■ Headphones

Jack type 3.5 mm STEREO

Load impedance 16–32 Ω

■ General

Power supply

For United Kingdom

AC 230–240 V, 50 Hz

For others

AC 230 V, 50 Hz

Power consumption

110 W

STANDBY condition

0.9 W

Dimensions (W $\times$ H $\times$ D)

210 $\times$ 104.8 $\times$ 300 mm

Mass

3.5 kg

DVD VIDEO PLAYER

■ Discs played

DVD-VIDEO

VIDEO CD

CD-AUDIO (CD-DA)

CD-R/RW (CD-DA or VIDEO CD formatted discs)

■ Video

Signal system

PAL(PAL 60/NTSC)

Output level (75 Ω)

Composite video 1 Vp-p

S-Video Y 1 Vp-p

S-Video C 0.3 Vp-p (PAL)

0.286 Vp-p (NTSC)

■ Digital output terminal Optical $\times$ 1

■ Pick up wavelength 658/790 nm

(NORSK)

Bølgelengde 658/790 nm

Laser-styrke

Ingen farlig stråling sendes ut

■ General

Dimensions (W $\times$ H $\times$ D)

210 $\times$ 76.3 $\times$ 295 mm

Mass

1.5 kg

CASSETTE DECK

■ Audio section

Track system 4 track 2 channel STEREO

Frequency response (Dolby NR off)

TYPE I (NORMAL) 30 Hz–16 kHz (DIN)

TYPE II (HIGH) 30 Hz–16 kHz (DIN)

TYPE IV (METAL) 30 Hz–16 kHz (DIN)

S/N (Signal level=max recording level,

TYPE II)

NR off 56 dB (A weighted)

Dolby B NR 64 dB (A weighted)

■ Motor

Capstan drive DC servo motor

Reel table drive DC motor

Fast forward and rewind time (C-60)

Approx. 90 seconds

Wow and flutter 0.1% (WRMS)

■ General

Dimensions (W $\times$ H $\times$ D)

210 $\times$ 104.8 $\times$ 241 mm

Mass

1.6 kg

FRONT SPEAKER

Type 2 way, 2 speaker, bass-reflex system

Speaker(s)

Woofer: 12 cm cone type

Tweeter: 2.5 cm semi-dome type

Impedance

HIGH * 6 Ω

LOW * 6 Ω

Input power

HIGH * 30 W (Music), 15 W (DIN)

LOW * 60 W (Music), 30 W (DIN)

Output sound pressure level

87 dB/W (1.0 m)

Cross over frequency

5 kHz

Frequency range 48 Hz–50 kHz (–16 dB)

55 Hz–45 kHz (–10 dB)

■ General

Dimensions (W $\times$ H $\times$ D)

160 $\times$ 334 $\times$ 222 mm

Mass

3.5 kg

* HIGH stands for High Frequency.

LOW stands for Low Frequency.

SURROUND SPEAKER

(Except for United Kingdom)

Type 1 way, 1 speaker system

Closed type

Speaker(s)

Full range: 8 cm cone type

Impedance

8 Ω

Input power

70 W (Music)

35 W (DIN)

Output sound pressure level

84 dB/W (1.0 m)

Frequency range 130 Hz–20 kHz (–16 dB)

150 Hz–18 kHz (–10 dB)

■ General

Dimensions (W $\times$ H $\times$ D)

140 $\times$ 99 $\times$ 118 mm

Mass

0.9 kg

CENTER SPEAKER

(Except for United Kingdom)

Type 2 way, 3 speaker, bass-reflex system

Speaker(s)

Woofer: 8 cm cone type $\times$ 2

Tweeter: 6 cm cone type

Impedance

8 Ω

Input power

160 W (Music)

80 W (DIN)

Output sound pressure level

86 dB/W (1.0 m)

Cross over frequency

4 kHz

Frequency range 100 Hz–22 kHz (–16 dB)

115 Hz–20 kHz (–10 dB)

■ General

Dimensions (W $\times$ H $\times$ D)

190 $\times$ 99 $\times$ 166 mm

Mass

1.8 kg

Notes:

1. Specifications are subject to change without notice.

Mass and dimensions are approximate.

2. Total harmonic distortion is measured by the digital spectrum analyzer.

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